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Teachers and Creativity in the Classroom

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TEACHERS AND CREATIVITY IN THE CLASSROOM

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ABSTRACT

Fostering creativity within the classroom can have numerous positive and lasting effects that support students in becoming adults who are inquisitive, curious, critical thinkers, as well as risk takers (Amabile & Kramer, 2012; Beghetto, 2015; Craft, 2003; Csikszentmihalyi, 2013; Hennessy, 2017; Piirto, 2004; Starko, 2018). Sternberg (2007) argues that, since the world is changing at a faster pace than ever before, students will need to continuously deal with new and unusual tasks and situations. Although the research identifies the importance of creativity in the classroom, the research also finds a trend in teachers' limited understanding of what creativity is and includes (Cho et al., 2017; Kamphlis et al., 2009; Colley, 2015; Hosseini & Watt, 2010; Al-Nouh et al., 2014). Because of the discrepancies between research that identifies the benefits of creativity, and research that identifies teachers' limited understanding of creativity, this study aimed to investigate how teachers in today's classrooms are cultivating creativity in meaningful ways through their instruction, curriculum, and classroom environments.

To gain an in-depth understanding of how creativity is cultivated in the classroom, five teachers were observed in depth during this case study. Data collected included interviews, observations, journals kept by teachers, and photographs of classroom environments. Through data analysis, the findings revealed that teachers did understand creativity and how to cultivate in their classrooms through their instruction, curriculum, and environments. Additionally, significant findings emerged that included

emotional connections, professional autonomy, teacher training, intrinsic motivation, and creativity stigmas. These findings can have important implications on how teachers might approach and/or embrace creativity in the classroom.

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CHAPTER ONE: INTRODUCTION

Introduction and Rationale

The benefits for cultivating creativity in the classroom have been clearly documented through research (Amabile, 1998; Beghetto, 2015; Eisner, 2002; Greene, 1995; Florida, 2005; Robison, 2009; Sawyer, 2015; Sternberg, 2007). Sternberg (2007) argues that creativity is more important now than it ever has been in the past (p. 7). Sternberg explains, "The problems we confront, whether in our families, communities, or nations, are novel and difficult, and we need to think creatively and divergently to solve these problems" (p. 7). Additionally, he explains that learning must be a lifelong endeavor and students need to learn to constantly think in new ways, which begins in the classroom (p. 7). Robinson (2011) rationalizes creativity by stating:

> Given the speed of change, governments and businesses throughout the world recognize that education and training are the keys to the future, and they emphasize the vital need to develop powers of creativity and innovation. First, it is essential to generate ideas for new products and services, and to maintain a competitive edge. Second, it is essential that education and training enable people to be flexible and adaptable, so that businesses can respond to changing markets. Third, everyone will need to adjust to a world where, for most people, secure lifelong employment in a single job is a thing of the past. (p. 6)

According to Amabile (1998), Eyster (2010), and Lederman (2007), "Teaching for creativity can help students improve critical-thinking skills, motivation, and engagement and start to understand the role of creativity in developing new scientific

knowledge" (as cited by Meyer, 2012, p. 54). Robinson (2009) argues that creativity can support the development of skills such as divergent thinking, for example, which then in turn encourages creativity through other means such as analogies, metaphors, and visual thinking (para. 23). In 1999, the National Advisory Committee of Creative and Cultural Education (NACCCE) stated, "In our view, creativity is possible in all areas of human activity and all young people and adults have creative capacities. Developing these capacities involves a balance between teaching skills and understanding, and promoting the freedom to innovate, and take risks" (p. 10). Hosseini and Watt (2010) cited in the Qualifications and Curriculum Authority (2005): "At the classroom level, the incorporation of teaching practices that promote creativity can lead to positive changes in student behavior, social skills, self-esteem, motivation, and academic achievement" (p. 432). The benefits of incorporating creativity in the classroom have been reviewed, but a trend surfaces when researchers examine teachers' perceptions of creativity as well as their implementation of creativity philosophies in the regular education classroom.

After investigating creativity in the classroom researchers revealed a trend in teachers' limited understanding of what creativity is and includes (Cho et al., 2017; Kamphlis et al., 2009; Colley, 2015; Hosseini & Watt, 2010; Al-Nouh et al., 2014). Hosseini and Watt (2010) found in their research that teachers had a limited understanding of creativity, while Kampylis et al. (2009) identified that teachers themselves did not feel well-trained and confident enough to facilitate creative thinking within their students. Al-Nouh, Abdul-Kareem and Taqi's (2014) study argued, "Although teachers said that they have enough occasions to promote creativity in the

classroom, their responses reflect a lack of training in how to inspire creativity in their students" (p. 76). Moreover, Colley (2015) identified that a limitation within her study was the complexity of the term "creativity"; teachers were unsure how to even define it. This was important to examine, because as noted in Cho et al.'s (2017) study, "A longstanding and compelling body of literature supports concerns that creativity development in the K-12 education setting has been and is not only threatened but deteriorating" (Beghetto, 2010; Berliner, 2009; Bronson & Merryman, 2010; Eisner, 2002; Greene, 1995, 2007) (p. 2). Because of the discrepancies between the research that identifies the benefits of creativity, and the actual cultivation of creativity in the classroom, the following research study was proposed.

Significance of Study

It is important to recognize that people both in and out of education are realizing the need for change in our schools to prepare students for a new century (Cropley, 2001; Starko, 2017; Sternberg, 2007). Business leaders, employers, politicians, and educators recognize the need for students to possess vital 21st century skills such as creativity to prepare for a future that is unclear (Ball, 1994; Robison, 2011). As noted by Cropley (2001) the knowledge and skills that will be needed in the future may not be known yet, and thus are difficult to teach (p. 26). Additionally, Ball (1994) stated, "Creativity is not just an ability that children need to really succeed at school; that is what they are going to need to succeed throughout their working lives and beyond" (p. 10). Sternberg (2007) discusses the fact that the technologies, social customs, and tools available to us now are replaced as quickly as they are introduced, and therefore suggests we need to be able to

think creatively in order to thrive and even survive (p. 7). The future that lies ahead is indefinite, providing an education that encourages creativity as well as divergent thinking might support students for a future that is impossible to predict.

Study Purpose

The purpose of this study was to gain insight into teachers' understandings of creativity and how they cultivate creativity in their classroom practices in elementary and middle schools of sub-urban areas of Denver, Colorado. By looking more closely at teachers' perceptions and beliefs of creativity through the novel framework, this study is able to look at the implications teachers face when trying to define and implement creativity practices in their classroom. Additionally, this study identified how teachers are implementing creative practices in their classrooms to support students' creativity.

Theoretical Frameworks

To clarify and create a precise picture of creativity for this study specific interpretive frameworks will be used that include mini-c, little-c, and CRISPA, which will be discussed in depth in the next section. By outlining these frameworks this study aimed to identify what "creativity" is according to theorists in the field and how it can be cultivated in the classroom. Although creativity is quite complex, by investigating it through a narrower lens, this study brought clarity to how teachers are defining creativity and how teachers are cultivating creativity in their classrooms.

Mini-c creativity. According to Beghetto and Kaufman, when people think of creativity and individuals they think of two types of people; (a) the "legendary pathfinder and; (b) the everyday creative person (2007, p. 71). These two types of creativity can be

described as the Big-C and little-c creativity. The Big-C creativity was paralleled with grand contributions within a domain, or people who were geniuses; in essence, creativity was rare and associated with legendary accomplishments (Beghetto & Kaufman, 2017, p. 80). Gardner (1993) used the idea of Big-C to guide his study on personality and biographical factors of seven great creators (Freud, Einstein, Picasso, Stravinsky, Eliot, Graham, & Gandhi), which later led to his work on seven intelligences. Later theorists and researchers began to question the idea that creativity has to be something that changes an entire field of knowledge. Amabile based her initial work on creativity around the idea that creativity could occur often and with many people, not just a select few. In her work she proved there was more to creativity and soon more models started to appear including concepts such as the little-c which is everyday creativity.

The dichotomy of little-c and Big-C in creativity have been discussed at length but concerns about these being too limiting brought about the "Four-c Model of Creativity" by Beghetto and Kaufman (2007). In their model, they included the mini-c, an interpretive creativity, and the Pro-c, a professional creativity (Beghetto & Kaufman, p. 71). In creating this model, Beghetto and Kaufman hoped to provide an understanding of the developmental trajectory of creativity, and in turn help teachers recognize how different levels of creativity could be included in their curriculum. This study focused on elementary and middle school and therefore used mini-c and little-c (p. 71) for the framework.

Mini-c is considered the first level of creativity in the Beghetto and Kaufman (2017) model. Mini-c is defined as "the novel and personally meaningful interpretation of

experiences, actions, and events" (Beghetto & Kaufman, 2017, p. 73). This can occur during the process of learning, when a student has a personally meaningful insight about something s/he is doing in class (p. 73). In Beghetto and Kaufman's model, mini-c is a creative act of learning, one that views how internal insights and interpretations are influenced by interactions and experiences with domain-relevant knowledge (p. 73). Their mini-c model also highlights the interdependent relationship between learning and creativity and demonstrates that through opportunities to explore mini-c insights, students may turn these insights in to significant Big-C contributions later in life (Beghetto & Kaufman, 2007, p. 73).

According to Beghetto and Kaufman (2017), "Four-c Model of Creativity" is important to consider in the classroom because it is through nurturing these mini-c insights that teachers can support creativity and its external expressions (p. 75). Beghetto and Kaufman (2007) note that recognizing and encouraging students' mini-c insights serves the following purposes: (a) it builds confidence in students' own creative potential; (b) encouraging students to share unique ideas helps them transform their interpretations into "socially betted ideas and understanding"; and (c) sharing and providing feedback on students' insights can enrich their learning and understanding (p. 74).

Little-c creativity. The second lens that this study will be exploring creativity through is little-c: the idea that creativity can be present in everyday experiences with anyone (Starko, 2018, p. 17). According to Beghetto and Kaufman (2017), "little-c is a reminder that creative expression is possible for most any student, in almost any curricular subject area, on almost any given day" (p. 76). Piirto (2004) described little-c

creativity as the way in which human beings lead their lives figuring out everyday perplexities (p. 17). Creativity does not have to change the world but practicing it on a smaller scale could possibly lead to big changes in a domain in the future (Beghetto & Kaufman, 2017, p. 73).

According to Craft (2001), little-c creativity or LCC includes adaptability, flexibility, and at the core possibility (p. 54). In her framework, Craft identifies three perspectives that include *agents, processes*, and *domains* and insists that all are necessary parts of the whole (p. 54). In this framework, "'*agen*t' implies activity undertaken by the person concerned" (p. 55). In this part of the framework Craft argues that each person finds their own little-c creativity in a unique way in accordance with their talents, skills, and aspirations. The *process* draws upon intuitions and non-conscious processes that involve imagination, not being satisfied with what already exists, using problem solving and problem finding in order to gain understanding and knowledge (p. 55). The last piece in Craft's framework is domain, which is in reference to having a grasp on the application, and the appropriateness of their ideas (Craft, 2003, p. 148). She elaborates by stating it involves the use of imagination, intelligence, and self-expression (p. 148). Through the cultivation of little-c teachers can support students in their creative endeavors in the classroom, which can lead to bigger possibilities in the future. Craft (2003) notes the importance of little-c creativity; "we cannot ignore opportunities that children offer us because this would shut down possibility. This, in tomorrow's world, is something we cannot afford to do" (p. 153).

CRISPA. The last interpretive framework that was used for this study is CRISPA, a framework created by Dr. Uhrmacher and taught at the Think 360 Arts for Learning institute in Denver, Colorado. The premise of this framework is to scaffold learning experiences from ordinary to extraordinary (Uhrmacher, 2009). According to Moroye and Uhrmacher (2010), the goals that schools should aim for are to provide exemplary situations and environments for learning to occur. This could be accomplished through aesthetic learning experiences, with the result being creativity (p. 101). Although their approach stems from the arts, Moroye and Uhrmacher also recognize that creativity is found across all educational disciplines. One aim of the Think 360 institute is to discern and communicate the important qualities of aesthetic educational experiences to teachers, so that in turn educators may consciously employ these qualities throughout their curriculum, offering creativity opportunities for both teachers and students (Moroye & Uhrmacher, 2010, p. 100-101). As outlined by Moroye and Uhrmacher (2010) CRISPA is comprised of six themes: **C**onnections, **R**isk-taking, **I**magination, **S**ensory experiences, **P**erceptivity, and **A**ctive engagement.

Connections is a way in which an individual interacts with their environment; this can include an idea or an object (Moroye & Uhrmacher, 2010, p. 102). In making connections each student will have a unique experience because these experiences are personal and comparable to the mini-c experiences. Csikszentmihalyi and Robinson (1990) categorized these experiences into intellectual, emotional, sensorial, or communicative. An example of connections as discussed by Moroye and Uhrmacher (2010) uses the book *House on Mango Street* by Sandra Cisneros to identify how students

might be differently connected (p. 102). Some students may feel emotionally empathetic for the main character Esperanza, while others may feel a connection to the neighborhood, while still others may have a sensorial connection to the sounds of the words, the rhythm, and texture of the phrases (p. 102).

Risk-taking, according to Moroye and Uhrmacher (2010), refers to the opportunities individuals are given in order to step out of their comfort zone and try something new. This is an important theme in order for original thinking and experiences to take place. The goal of taking risks is to learn something new about an idea, an object of study, or even about oneself (Moroye & Uhrmacher, 2010, p. 102). Students must have the opportunities to try something new, even at the risk of failing, as Starko (2018) explains, "Creative people must be willing to take risks, to accept the failures that almost inevitably precede successes" (p. 112). Piirto (2017) gives an example of risk-taking when she describes the case of Nikola Tesla, the inventor of alternating current, "He fought and won, fought and lost, trusted and was betrayed, and still remained steadfast to his principle that alternating current would eventually be preferred over direct current" (p. 140). Piirto goes on to explain that there a several examples of creators who worked hard in their domains for years with many attempts and failures before finally becoming a leader through groundbreaking risk-taking work (p. 140).

The next theme is *imagination,* which Moroye and Uhrmacher describe as the internal manipulation of ideas. Imagination can be characterized in the following ways: intuitive—a person has a sudden rush of insight; fanciful—combining unexpected elements; interactive—working with materials to yield a product; and mimetic—

mirroring the creative expression of another (p. 102). In this framework, it is important to note that the imagination refers to the internal work, and creativity is the external fruition of the internal work (Moroye & Uhrmacher, 2010, p. 102). Likewise, Robinson (2011) explains that imagination is the root of creativity, the ability to bring to mind things that are not present in our senses (p. 228). Robinson explains the process of creative work and imagination especially in the early stages, includes openly playing with ideas, riffing, doodling, exploring new possibilities (p. 228). One company that strives to invoke imagination is Pixar; as Robison explains, "Pixar University is a highly practical way of energizing the imagination of everyone in the company, of uncovering often-unknown personal talents, and of cross-pollinating the culture of the whole organization" (p. 230).

The fourth theme is *sensory experience*, which occurs when at least one person has a sensory interaction with an object, with "object" being metaphorical for either an object, a text, a lesson, a concept, or even a nature experience (Moroye & Uhrmacher, 2010). Through this theme it is important to note that any kind of aesthetic experience depends on the use of one's senses as they become engaged with some aspect of the world; the object comes to life through the senses (Moroye & Uhrmacher, 2010, p. 103). This leads to the theme, perceptivity. Uhrmacher (2009) argues that sensory experiences allow for perceptivity (p. 624).

Perceptivity refers to a deepened sensory experience, looking at not just surface features, but taking the time to thoroughly examine something so that one can notice its subtler qualities (Moroye & Uhrmacher, 2010). To include perceptivity a teacher may give students ample time to examine something they will be learning about (such as a

honeycomb, or a worm before dissection). Given this time to thoroughly examine these objects, students will have the opportunity to be more perceptive about the intricate parts. Additionally, by encouraging perceptivity students are more likely to have a sensory experience. As discussed before, Uhrmacher (2009) argues that sensory experience is the work of perceptivity, and that perceptivity allows for the building up of one's own experience (p. 624). For example, Dewey says:

> A crowd of visitors steered through a picture-gallery by a guide, with attention called here and there to some high point, does not perceive…For to perceive, a beholder must create his own experiences (as cited by Uhrmacher, 2009, p. 624).

The final theme in the CRISPA framework is *active engagement.* According to Moroye and Uhrmacher (2010), students are in the driver's seat of their own learning; they are the ones making decisions about how to show their learning or what lens to investigate from (p. 102). During active engagement students are engaged in a learning experience either physically, intellectually, or a combination of both (Moroye & Uhrmacher, 2010, p. 102). According to Conderman et al. (2012):

> Active engagement occurs when students process information through talking, moving, writing, manipulating, interacting, reading, discussing, and exploring values and attitudes rather than just watching and listening. Learners learn better when they are actively engaged (p. 33-34).

As mentioned previously, Moroye and Uhrmacher (2010) argue that through CRISPA students have opportunities to have an extraordinary learning experience. This extraordinary experience provides opportunities for students to have aesthetic

experiences, which in turn, encourages creativity (p. 101). The CRISPA framework will be used as a guide during data collection and analysis.

Novel Interpretive Framework

This study used a novel interpretive framework that is a combination of the established interpretive frameworks including mini-c, little-c, and CRISPA to investigate creativity in the classroom. It was the hope that through this new framework this study could provide a perspective on creativity that is smaller in scope and more manageable to understand and observe in the classroom. The work done within the realm of creativity is extensive and overwhelming at times, which leads to ambiguity in the field and within teachers' classrooms (Cho et al., 2017; Kamphlis et al., 2009; Hosseini & Watt, 2010; Al-Nouh et al., 2014). By narrowing the scope of creativity and bringing in more clarity, it was the intention of this study to bring greater understanding to what creativity is and how it is manifested in the classroom, in order to support what the cultivation of creativity could look like in elementary and middle school settings. Starko (2018) argues, "If we are going to think about encouraging creativity in the classroom, we have to think about the factors that are supportive of both learning and creativity (p. 142). Through data collection this study compared its' findings using this novel framework. (See *Figure 1, Novel Framework*.) Starko (2018) uses a similar model to depict key factors that influence creativity (p. 142). Starko reasons that, "Creativity requires knowledge bases in both the disciplines and creative thinking strategies, creative thinking habits, and an environment in which creativity can thrive" (p. 142).

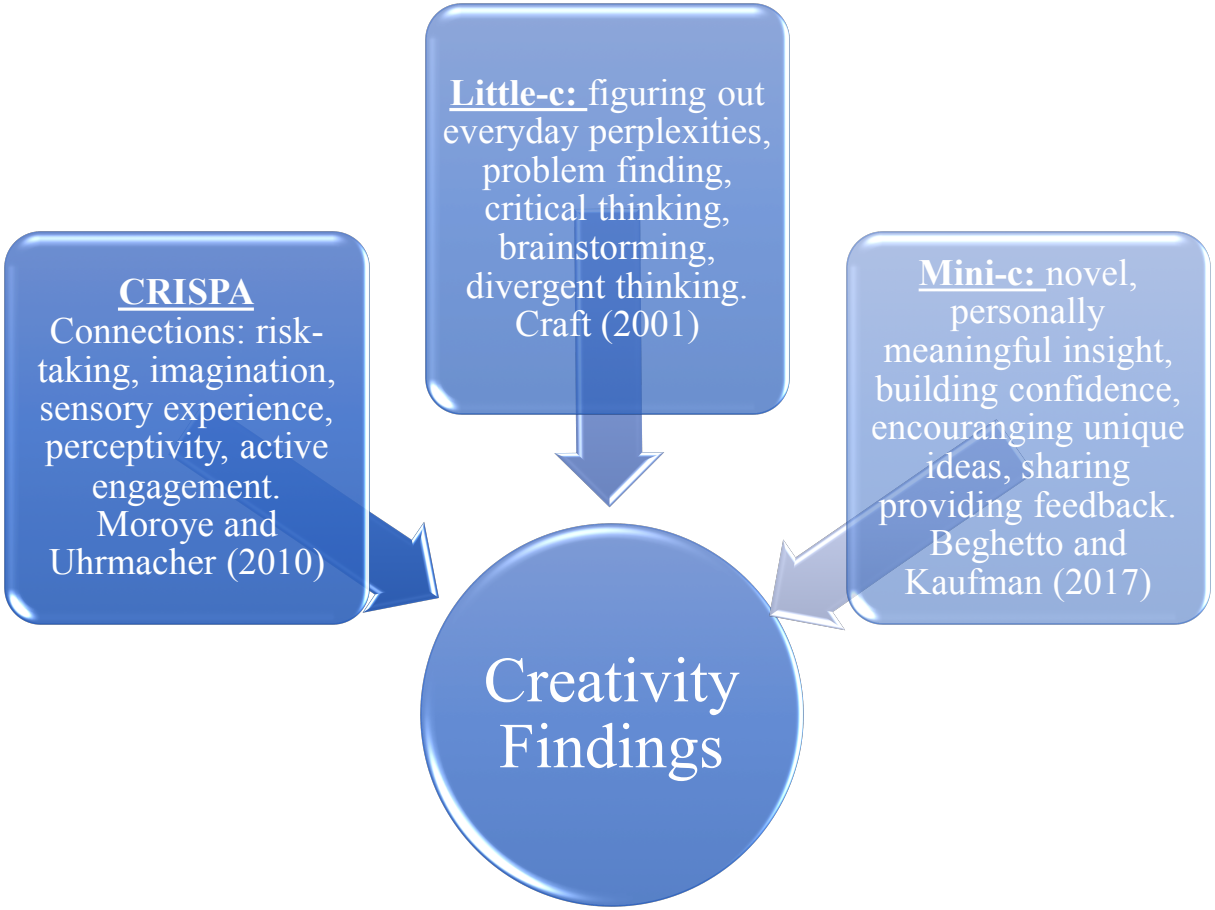

Figure 1 – Novel Framework

Since the purpose of this study was to gain insight into teachers' understandings of creativity and how they cultivate creativity practices in their classroom, the following research questions were generated.

Research Questions

1. What are teachers' perceptions and beliefs about creativity?
2. What kinds of experiences did teachers have in order to gain understanding and inspiration about creativity?
3. What barriers do teachers perceive relative to cultivating creativity in elementary and middle school education?
4. What supports do teachers find beneficial in nurturing creativity education in elementary and middle school education?

Question 1: What are teachers' perceptions and beliefs about creativity? In this question, "perceptions" is manifested as immediate or intuitive recognition or appreciation, apprehending by means of the senses or of the mind; cognition; understanding (Dictonary.com, 2018), and "beliefs" is defined as a state of mind or habit in which trust or confidence is placed in something (Merriam-Webster, 2018). Through this question, the hope was to gain insight into how teachers perceive creativity, what it includes and entails, and if teachers value it enough to include it in their classrooms practices. As noted in Kampylis' (2009) study, there is a need to expose what teachers really mean and what their implicit theories are when they see the word "creativity"; this is vital if we want to clarify that teachers both ((a) know how, and (b) want to facilitate student's creative potential (p. 16).

Question 2: What kinds of experiences did teachers have in order to gain understanding and inspiration about creativity? The second question that this study investigated was what kind of training teachers have experienced in relation to cultivating creativity in the classroom. Through this question this study tried to gain awareness about what types of learning opportunities teachers have had in learning about creativity and how to cultivate creativity in the classroom. This study aimed to find out what types of learning opportunities teachers participate in such as classes, professional learning communities (PLC), professional development, and/or conferences. In addition to where teachers obtained their information, this study also considered if teachers sustained their learning and shared or collaborated with others. Through observation, this study observed how teachers have been able to implement these practices and their understanding of creativity into their classrooms through instructional strategies, curriculum, and environment.

In addition to knowledge of creativity, this study also investigated where teachers gain their inspiration for creativity. By looking at what inspires teachers creativity this study hopes to understand the impact inspiration can have on the teachers and their teaching practices.

Question 3: What barriers do teachers perceive relative to cultivating creativity education in elementary and middle school education? The aim of this question is to identify the barriers teachers face when trying to cultivate creativity practices within their classroom. Barriers could include a number of aspects both within and beyond the teachers' control. For this question, "barriers" is defined as a circumstance or obstacle

that prevents progress (Dictonary.com, 2018) in cultivating creativity. Specific barriers could have included curriculum demands, time constraints, testing objectives, teachers' knowledge of creativity, as well as pedagogical expectations from a district and/or the school (Cho et al., 2017). By identifying the barriers teachers face, this study was able to look at how teachers are able to overcome barriers in order to cultivate creativity in the classroom.

Question 4: What supports do teachers find beneficial in nurturing creativity education in elementary and middle school education? According to research conducted by Sternberg and Lubart (1999), children's creativity could be nurtured and developed by teachers who had positive beliefs and perceptions about creativity and practiced ways to support creativity in the classroom. The goal of this question was to gain insight into what supports teachers find helpful to them as they are working to cultivate creativity in the classroom. These supports could include instructional, curricular, environmental, culture, administration, and/or professional development.

By exploring what is going well, we can then build on those concepts and support other teachers in elementary and middle schools in implementing best practices to cultivate creativity.

Methodology/Data Analysis

In order to gain an in-depth understanding of how creativity is realized and implemented in the classrooms by elementary and middle school teacher, this study conducted an instrumental case study to examine what struggles and successes teachers face when trying to include creativity in their classroom practices. Through this process a

collective case study approach was used, which Creswell (2013) described as an issue or concern being addressed with multiple case studies in order to show different perspectives on the issue (p. 99). The advantage of using this approach, according to Yin (1981) includes; (a) the research contains concrete examples; and (b) case studies can test existing theories of knowledge, as well as extent those theories (p. 109). Additionally, to narrow the scope, the study used the lens of the novel framework presented in this study to gain an understanding of how creativity is being realized in the classroom.

For this study, five teachers were enlisted from different elementary and middle school settings who were interviewed and observed; their answers were recorded for analysis. Photographs of classrooms environments were taken, and teachers were asked to keep a journal of creativity practices. The data collected was then reviewed for themes. In order to ensure a strong thematic analysis Braun and Clarke's (2006) thematic analysis was used, which included the six phases of analysis: becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining themes, and producing a report. Using Creswell's (2013) case study analysis, a detailed description of each case was written, including a thematic analysis, which is known as "With-in Case Analysis," followed by a thematic analysis across the cases known as a "Cross-Case Analysis" (p. 101), see *Table 1*.

Table 1 - Research Questions, Variables/ Outcomes, and Analysis

Research Questions	Variables/Outcomes	Analysis
What are teachers' perceptions about creativity?	Interviews, observations, teachers' journals, photographs, voice recordings	Within-Case Thematic Analysis Cross-Case Thematic Analysis
What kinds of experiences did teachers have in order to gain understanding and inspiration about creativity?	Interviews, observations, teachers' journals, voice recordings	Within-Case Thematic Analysis Cross-Case Thematic Analysis
What barriers do teachers perceive relative to cultivating creativity in education in elementary and middle school education?	Interviews, observations, teachers' journals, photographs, voice recordings	Within-Case Thematic Analysis Cross-Case Thematic Analysis
What supports do teachers find beneficial to nurture creativity education in elementary and middle school education?	Interviews, observations, teachers' journals, photographs, voice recordings	Within-Case Thematic Analysis Cross-Case Thematic Analysis

Strengths and Limitations

Strengths. This study used a case study for the methodology, which contains several strengths. To begin, this study was able to see the lived reality of what teachers are experiencing in their classrooms and have first-hand perspective of creativity practices within their classrooms. Additionally, five participants were recruited for the study, which as Noor (2008) described allowed for the unique opportunity to gain a more holistic and comprehensive view of creativity in the classroom, since multiple sources of

evidence were used for data collection (p. 160). Furthermore, through individual (within-case) and then cross-case analysis of each case, this study had a greater opportunity to gain a deeper insight into the qualities of creativity practices by the participating teachers. Additionally, as noted by Nowell et al. (2017) "Through its theoretical freedom, thematic analysis provides a highly flexible approach that can be modified for the needs of many studies, providing a rich and detailed, yet complex account of data" (Braun & Clarke, 2006; King, 2004) (p. 2).

Limitations.

In this study, one of the limitations that became apparent during interviews and observations was the fact that all of the teachers in the study worked under a supportive administration that encouraged their teachers and gave them autonomy in their teaching practices. This could be viewed as a limitation because it does not explore how teachers with restrictive administrations are able to overcome this obstacle and still include creativity in their classroom. This could also be a result of the recruiting process and that only principals who felt confident in the idea of creativity were willing to participate.

Another limitation that will be addressed is that this case study is that it only included general education teachers in core curriculum classes. This was done intentionally to further understand how teachers in the general educational classrooms were cultivating creativity. As a result, the information identified in this study could be potentially different if elective teachers or special education teachers were included in the sample. Furthermore, the participants in this study were all Caucasian, so as a result minority representation is a limitation within this study.

The final limitation that I'm going to address is the time period used for this study. Information from this study was gathered between the months of September and December. It would be interesting to look at a larger period of time or to look at the end of the school year when much of the high-stakes standardized testing is done to see how the teachers were cultivating creativity when they were less inundated with the testing and able to teach more freely.

CHAPTER TWO: REVIEW OF LITERATURE

Overview

This chapter will present a variety of creativity definitions, theories, and models to build a better understanding of what creativity is and entails. As noted earlier, because the field of creativity is so vast, the ambiguity in the field leads to confusion and uncertainty on what creativity is and how to implement best practices that cultivate creativity in the classroom (Cho et al., 2017; Kamphlis et al., 2009; Colley, 2015). Although research outlines the benefits of creativity and specific models in developing critical-thinking skills, divergent thinking, intrinsic motivation, engagement, and different ways of expressing ones' knowledge, it has been noted that in the field of education creativity is not well understood or implemented (Hosseini & Watt, 2010; Al-Nouh et al., 2014). In addition to exploring theories and models in creativity, this review will also examine institutions that provide professional development in creativity to illustrate opportunities that are currently offered to teachers. Finally, this review will investigate studies that have examined similar research questions, to gain better insight on what has been investigated and what needs further investigation. For this paper, this study will focus on recent research on creativity and more specifically on pragmatic models that could be implemented within the classroom. Models and theories for this study were

chosen by the frequency they occurred in research and books about creativity in the classroom.

Defining Creativity

As Mullet et al. (2016) stated in their study, "Creativity is a complex construct and scholars have yet to achieve consensus on how to define creativity" (p. 10). Defining the word creativity is a daunting task and nearly impossible to many, especially for teachers struggling to apply this concept within their teaching practices (Colley, 2015). For this review, the definition of creativity was accepted as authors stated in their studies. While taking this into consideration, it is still important to clarify a definition of creativity for this paper; to do so, we will examine the definitions used by theorists in the field. To help clarify the definition of creativity, this review will identify seven definitions currently used by different theorists in order to exhibit the diversity of the definitions, and also showcase the similarities between them. These theorists were chosen based on their fields of study to show a variety of perspectives which included; education, business, psychology, and dance.

In her book *Understanding Creativity,* Piirto (2004) defined creativity as:

> "[Creativity is in] the personality, the process, the product within a domain in interaction with genetic influences and with optimal environmental influences in home, school, community, and culture, gender, and chance. Creativity is a basic human need to make new" (p. 39).

Csikszentmihalyi (1996) identified creativity as any act, idea, or product that changes an existing domain, or that transforms an existing domain into a new one (p. 1). Amabile (1996) defined creativity as a product or response judged as creative to the extent that (a) it is both a novel and an appropriate, useful, correct, or valuable response

to the task at hand; and (b) the task is open-ended, with more than one way of doing it. Sternberg (2007) said that creativity was a habit, and the ability to produce something both novel and appropriate (p. 3). Robinson (2015), as noted in his report *All Our Futures: Creativity, Culture, and Education*, defined creativity as the process of having original ideas that have value. Robinson (2011) also wrote that creativity involves putting one's imagination to work and that innovation is applied creativity. Tharp (2003) discussed creativity as being a habit and that creativity is best when it results from good work habits. Beghetto and Kaufman (2007) defined creativity as "the ability to produce work that is novel, high in quality, and appropriate" (p. 73). *Table 2* showcases the basic definitions of creativity from several theorists and the key ideas shared among these definitions. There are also organizations that have developed their own definitions such as the National Advisory Committee on Creative and Cultural Education (NACCCE), who described creativity as imaginative activity to produce outcomes that are both original and of value. This is important to examine as well to give a varied representation of how to define creativity; see *Table 2* for detailed information.

Table 2 - Creativity Definitions and Similarities

Expert	Creativity Definition	Similarities
Piirto (2004)	Creativity is a basic human need to make new.	Make new
Csikszentmihalyi (1996)	Creativity is any act, idea, or product that changes an existing domain, or that transforms an existing domain into a new one.	Act, idea, product Change existing domain, transforms into a new one
Amabile (1996)	Creativity is a product or response that is novel, appropriate, useful, correct, or valuable to the task at hand. The task is open-ended, more than one way of doing it.	Product or response Novel, appropriate, useful, correct, or valuable Open-ended, more than one way
Sternberg (2007)	Creativity is a habit and is the ability to produce something that is both novel and appropriate.	Habit Novel Appropriate
Robinson (2015)	Creativity is the process of having original ideas that have value.	Original ideas Value
Tharp (2003)	Creativity is a habit; the best creativity is the result of good work habits.	Habit Work
Beghetto and Kaufman (2007)	The ability to produce work that is novel, high in quality, and appropriate.	Work Novel Appropriate

Examining these different definitions allows one to witness how different perspectives about creativity can do two things: (a) open it up for larger interpretation; and (b) note the commonalities within the definitions. The aforementioned definitions are just a few of the definitions on creativity, but highlighting the different ways experts

define creativity allows one to identify what these definitions have in common. One idea that appears common in several is that creativity is something that is new, novel, or original. This "newness" could be something new to society, or just new to the person that is creating. The second idea included in most of the definitions is the notion that the original piece, product, or whatever was created is useful or has value; thus, creativity is about creating something that adds value or will be beneficial in some way to that person or society at large. As Csikszentmihalyi (1996) noted, creativity can change a domain, or transform an existing domain into a new one (p. 1).

Theories of Creativity

In the same manner that the definitions of creativity are vast and lacking a consensus, so are the theories concerning creativity. The idea of creativity itself has been around since the time of both Plato and Aristotle and gained further attention again in the 1920's by theorists such as Dewey, Wallas, and Kohler. Creativity continued to gain attention from psychologists throughout the 20th and into the 21st century, and today inspires an assortment of current theories. In the *Handbook of Creativity* (2010), Kaufman and Sternberg divide the main threads of creativity into ten different categories including but not limited to: developmental, psychometric, stage & conceptual, cognitive, problem solving & expertise-based, and evolutionary. In addition, in Piirto's book, *Understanding Creativity* (2004), she divided creativity into six threads including psychometric, developmental, cognitive, educational, humanistic, and positive. For the purpose of this study, and for the ease of comprehension the theories being explored are organized into the following fields of psychology: developmental, social, and cognitive.

These fields were chosen based on being able to identify how creativity is cultivated overtime (developmental), through environments (social), and (cognitive) "Ideational thought processes are foundational to creative persons and accomplishments" (Kozbelt, Beghetto, & Runco, 2010, p. 27).

Developmental psychology. In the world of developmental psychology, the views mainly focus on stages of development in a creative person. Piirto (2004) explained, "Creativity is realized in the process of a lifetime in various stages, through a network of enterprises by a predictable developmental path" (p. 13). Through the eyes of developmental psychologists, the development of creativity and creative expression over time is known as stage theory. In Gruber's 1974 study and his "evolving systems theory," he noted how creative people often have initial ideas/sketches of their work in their youth. He further explained that creativity is the work that is done over a lifetime through many years of work, and not just in a moment. Over the years, Gruber elaborated on the evolving systems by "discussing facets such as networks of enterprise, uniqueness, pluralism, insight, and evolving belief systems" (as cited by Piirto, 2004, p. 13). Gruber's (1981) Darwin on Man: A Psychology Study of Scientific Creativity examined the evolution of Darwin's work through analysis of his notebooks and writings. According to Starko, Gruber used the evolving systems approach to "recognize the creative individual both as a constructor of tasks and as a human being interacting with the world, with emotions, aesthetics, and needs" (p. 83). Starko (2018) outlined Gruber's work as a system of complex attitudes and approaches that include (a) development over time, affected by purpose, play and chance; (b) identification of multiple insights, projects, and

metaphors; and (c) the idea that creative activity is interactive, affected by history and relationships (p. 83).

According to developmental theories (Feldman & Goldsmith, 1986; Kozbelt, Beghetto, & Runco, 2010) , human beings experience transformations as they respond to interactions with the world. This rings true for Feldman and Goldsmith (1986) who provided a developmental approach that described the work created as "transformational." As described by Piirto (2004), this type of transformation is not only new and valuable to the individual, but also to the knowledge of a specific field (p. 14). Feldman described these as "imperative transformations," but noted that, to achieve mastery, a person would first need to acquire expertise (Piirto, p. 14). As described by Kozbelt, Beghetto, and Runco (2010), "Developmental theories of creativity are among the most practical" (p. 26). Kozbelt et al. (2010) explains:

> Not only do they [developmental theories] help us understand the roots of creativity, as suggested by background of unambiguously creative persons, but they also suggest how to design environments so that the creative potentials of children will be fulfilled. Thus, developmental views mainly emphasize the person, place, and potential aspects of creativity, and range from mini-c to Pro-c (p. 26).

Social psychology. In contrast to developmental psychology, social psychology focuses on environmental influences of a creative person. Csikszentmihalyi is one theorist who advocates for creativity representing more than an idea or a product. In his work, Csikszentmihalyi saw creativity not as particular traits or products that people had, but rather as an interaction between person, product, and environment. To understand creativity Csikszentmihalyi designed and conducted a research endeavor between the years of 1990-95 to study 91 highly creative individuals that had transformed their field

or domain in some way (2013). As a result of his research Csikszentmihalyi (2013) described a creative person as someone whose thoughts or actions change a domain, or even create a new one (p. 28). Csikszentmihalyi argues that a person must be familiar with a domain, the creative system within the domain, and internalize this system before he/she can change it (p. 47). In his work, Csikszentmihalyi discusses two categories for understanding creativity. First, as Piirto (2004) outlines, "Big-C" is the person whose work is well known in the field and domain, and who has had major influence upon the field/domain (p. 17). Differing from Big-C is "little- c," which is creativity that human beings experience and create in their everyday lives (p. 17).

According to a study conducted by Albert and Runco (1989), creativity in children was correlated with children of parents who were not overly restrictive, and who allowed their children independence and choice. Kozbelt et al. (2010) suggest, "optimal independence allows children autonomy that can then be used in their thinking and allows them to devise original ideas" (p. 26). Additionally, Kozbelt et al. (2010) explains that:

> Information is shared among the levels of a system and determines how behaviors, including creative behaviors, are interpreted. These interpretations determine what constraints are placed on behavior and, conversely, how much freedom there is for novelty and creativity. For Albert, the actual impact on action and development is apparent in persons-environment interactions. Very significantly, the more complex the system, the more freedom these is for individuals (p. 40).

The field of social psychology also offers the idea of intrinsic motivation. Amabile (1996) builds a strong connection between creativity and motivation. People with a desire to find something will create something, from the sheer internal desire to do

so (p. 97). Hennessey (2017) suggests that intrinsic motivation is conducive to creativity, while extrinsic motivation is usually detrimental (p. 236). Furthermore, some theorists associate passions with creativity and motivation, a strong emotional tie or engagement with the domain they are working with or towards (Piirto, 2004; Starko, 2018; Robinson, 2011). It is through these passions and motivation that the creative process is possible and more importantly engaging (Piirto, 2004; Robinson, 2011).

Cognitive psychology. Cognitive theories are quite varied within the field, but in general these theories focus on the creative process and the person. Processes are the cornerstones to creativity and include important concepts such as divergent thinking, metaphorical thinking, metacognitive processes, and conceptual combination. As stated by Kozbelt, Beghetto, and Runco (2010) in the Cambridge Handbook of Creativity, Cognitive theories emphasize both the creative process and person: process in emphasizing the role of cognitive mechanisms as a basis for creative thought; and person, in considering individual differences in such mechanisms (p. 31). According to Piirto (2004), "Creative Cognition" is a term used by cognitive psychologists that seek to study the underlying cognitive means by which creative thought is produced (p. 20). One well-known psychologist in this area is Gardner (1984), who is known for his work on multiple intelligences. According to Gardner's theory, creativity plays a role in in each of the intelligences as they are developed. Starko (2018) notes that Gardner's definition of creativity explains that creativity is not a characteristic in general, but rather a characteristic a person has in a certain domain (p. 79). Starko (2018) goes on to say that a person can become creative in a certain domain based on individual intelligences,

personality, social support, and domain and field opportunities. In Gardner's book *Creating Minds* (1993), he described five activities which creative individuals may be involved in: solving a particular problem, putting forth a general conceptual scheme, creating a product, giving a stylized performance, and performing for high stakes.

Sternberg is another contemporary psychologist who has researched cognition and creativity. In his book, *The Triarchic Mind* (1986), Sternberg named three types of intelligences: the creative, the analytic, and the practical. Sternberg named this theory "triarchic," explaining that each of the intelligences incorporates creativity, insight, planning, research, and the act of completing the task. In contrast to Sternberg's contemporary theory, Guilford's Structure of Intellect (SOI) theory was created in the 1960's. After several revisions, by the 1980's his SOI model contained 180 different types of cognition. According to Kozbelt et al. (2010), Guilford's distinction between divergent and convergent thinking is still used in studies to gain understanding in creative cognition (p. 32). Kozbelt et al. further explained that divergent thinking occurs when ideas and association move in varied directions, and as a result new and original ideas may be found (p. 32).

Another cognitive theory that is gaining more attention more recently is the theory of conceptual combination, the idea of bringing together different sets of information. Estes and Ward (2002) noted that the result of conceptual combination is emergent properties. In their study, Estes and Ward argued that original ideas are more likely to occur when two dissimilar notions are brought together, and then connections are made between them; this could include abstract thinking or metaphoric logic. And to conclude,

cognition theory is the idea of metacognitive processes that are often connected to creative thinking. As discussed by Kozbelt et al. (2010), tactile thinking is metacognitive and can increase the probability of creative problem solving. Tactile thinking could include ideas such as changing perspectives, looking at problems backwards, and questioning already made assumptions.

These theories are important cornerstones to building an understanding of what creativity is and how it influences student creativity. In addition to theories, models of creativity and how creativity can be cultivated are equally important in understanding best practices for cultivating creativity in the classroom.

Creativity Models

Keeping with the theme of creativity being both complex and diversified, the models of creativity are as varied as the definition and the theories that help form them. Although there is much diversity, Starko (2018) noted that traditionally the models of creativity focused on four areas, all starting with P, including: person, process, product, and press (environment) (p. 30). For the purpose of this study, the models to be highlighted will include practical approaches that are currently used within classrooms and can be implemented by teachers focusing on instructional strategies, curricular frameworks, and environmental aspects that include both social-emotional and tangible.

Instructional strategies. Instructional strategies are at the heart of teaching and important to include when looking at creativity models. According to Robinson (2015), teachers are charged with fulfilling three important purposes for students: inspiration, confidence building, and creativity. As Starko (2018) explained,

> Learning activities designed to foster creativity cast students in the roles of problem solvers and communicators rather than passive acquirers of information. Teachers in turn, are transformed from founts of all wisdom to problem-setters, problem-seekers, coaches, audiences, and sometimes publicity agents (p. 21).

Keeping this in mind, the following models were examined in order to clarify specific instructional models of creativity that could be used to cultivate creativity in the classroom: thinking models by Dewey (1920) and De Bono (1956), problem solving, problem finding, flow, divergent thinking, and inquiry.

Early models of problem solving. To begin exploring instructional models, one of the earliest models of creativity and problem solving was designed by Dewey in 1920. In Dewey's problem solving model he described five logical steps that include: (a) a difficulty is felt, (b) the difficulty is located and defined, (c) possible solutions are considered, (d) consequences for these solutions are weighed, and (e) one of the solutions is accepted. Dewey was a believer that the arts and creativity are deeply connected to all domains of knowledge, and that included teaching and learning. After Dewey's model, Wallas (1926) designed his own four-step creative process. Starko (2018) outlined these four steps, which included preparation, incubation, illumination, and verification (p. 31). Both models illustrate the idea of students exploring and identifying problems and then working to find solutions, rather than having teachers explicitly show/tell them.

In addition to Dewey and Wallas, the Osborn-Parnes model of Creativity Problem Solving (CPS) has been around since the 1950's. First published by Osborn in 1953, this model has undergone several revisions, but the purpose of using it as a guide for creative processes has continued to this day. Starko (2018) explains that the purpose of the CPS

model was to use steps that included both divergent and convergent thinking (p. 33). In the early stages of its development, CPS was a linear model with alternating periods of convergent and divergent thought. Later, the model became more fluid and included stages, not a sequence, and the stages included understanding the problem, generating ideas, and planning for action (Starko, 2018, p. 34). It is important to note that although these models are well known and have been used for years, there is some questioning about the validity of these approaches and their authenticity to creativity. As Sternberg (2014) explains,

> Equally damaging to the scientific study of creativity, in our view, has been the takeover of the field…those who follow what might be referred to as a pragmatic approach. Those taking this approach have been concerned primarily with developing creativity, secondarily with understanding it, but almost not at all with testing the validity of their ideas about it (p. 5).

Sternberg goes on to explain that the pragmatic approaches may be useful, but cautions that people may associate pragmatic approaches with commercialization and see it as a lesser psychological study (p. 6).

Problem finding. Another model that considers the process of creativity is problem finding. The importance of problem finding has been recognized since the time of Albert Einstein; a quote often associated with concept is "the formulation of a problem is often more essential than its solution" (from Einstein & Infeld, 1938, p. 83) (as quoted by Runco, 1994). According to Kozbelt et al. (2010),

> "The problem-finding view holds that the traditional problem-solving view is inadequate to explain how creators come to realize that a problem exists in the first place, and how they're motivated to proactively bring subjective experience to understand the problem" (p. 34).

Getzels' (1987) model identified three problem types that included the following:

> *Type 1 Problem* – there is a known formulation, a known method of solution and a solution known to others, but not the problem solver.
> *Type 2 Problem* – problems take the form of a presented problem, but the method of solution is not known to the problem solver.
> *Type 3 Problem* – there is no presented problem, the problem itself must be discovered, and neither the problem nor the solution may be known to anyone (Starko, 2018, p. 37-38).

In 1993, Csikszentmihalyi and Sawyer proposed that creative stages vary in how problems are presented and discovered. In their work, they described four different stages: (a) hard work and research proceeding the moment; (b) a period of idle time alone; (c) a moment of insight; and (d) elaboration in order to bring the idea to fruition (Starko, 2018, p. 38). Although strategies such as these have been correlated with originality in thinking, one problem that arises in using this model is the amount of time that could be consumed in such endeavors. This could cause implications in the classroom since time is a factor that drives a teacher's day. Additionally, these models have mostly been used on older students, so the application of such ideas on younger students could be questionable.

Flow. In the world of creativity, creative people and theorists often discuss the idea of working in a trancelike manner, where they are completely consumed with what they are doing, and they lose track of time and the space around them. And although this concept has been around for a while, the term that was coined by Csikszentmihalyi was "flow" to describe this state in 1990. According to Csikszentmihalyi (1990) are nine elements that make up "flow," which include:

1) There are clear goals every step of the way

2) There is immediate feedback to one's actions
3) There is a balance between challenges and skills
4) Actions and awareness are merged
5) Distractions are excluded from consciousness
6) There is no worry of failure
7) Self-consciousness disappears
8) The sense of time becomes distorted
9) The activity becomes an end in itself, or autotelic

Although the idea of flow is enticing, and in Csikszentmihalyi's work he noted that flow activities can provide a sense of discovery and push people to higher levels of performance (as cited by Starko, 2018, p. 298), the difficulty lies in incorporating this practice/approach into schools with fixed schedules. Teachers would need to be intentional in finding blocks of time when students could concentrate and work without interruption for long periods of time.

Divergent thinking. According to Starko (2018) divergent thinking includes thinking of many possible answers to a single question (p. 60). In essence, divergent thinking is a way of solving problems or working through assignments wherein there is a variety of possible solutions or possibilities (as opposed to convergent thinking, which relies on a set number of solutions). Divergent thinking and models are commonly discussed within creativity in both educational and business worlds. As discussed earlier, Guilford's SOI model (1959, 1986, and 1988) was a complex model of intelligences. As Starko (2018) elaborates, "Guilford included divergent thinking, or thinking of many

possible responses to a given questions, as one of the basic processes of intelligence (p. 60). Baer's (1993) study examined how training on divergent thinking affected student's creative performance; as a result, divergent thinking was associated with higher-quality creative products. Divergent thinking can also help students to identify ideas in activities such as brainstorming (Osborn 1953), thinking of varied or unusual ideas, and ways to extend their thinking. One such model that uses these divergent thinking is the Talents Unlimited model (Talents Unlimited, Schlichter, 1996, p. 17). Divergent thinking is important because it allows for flexibility, originality, and elaboration on ideas generated by students.

Inquiry-based learning. One of the early pioneers of inquiry-based learning was Dewey (1933), who outlined important aspects of this learning style. In the 1960's, Schwab created an Inquiry-Based Learning model that relied on the idea that individuals are able to learn by investigating problems, ideas, and situations through social experiences. According to the Education Development Center, Inc. (2016), some of the key principles in inquiry-based learning include:

1) Learning driven by the learner's questions and curiosities
2) Various ways to construct meaning from building knowledge
3) Learning that is more important than the information being presented
4) Learning that is more web-like
5) Teachers who act as facilitators to help learners arrive at their questions of what motivates them to learn

Starko (2018) explains the key attributes of inquiry as examining data, making hypothesis, and drawing conclusions; this is a cycle that can be repeated over and over again (p. 270). Starko also notes that through inquiry students have the opportunity to consider multiple possibilities, think independently, and support their ideas through research, all while learning content (p. 270).

These are some of the models that have been identified by the literature—including *Creativity in the Classroom Schools of Curious Delight* (2018), *Nurturing Creativity in the Classroom* (2017), and *Understanding Creativity* (2004)—as possible avenues for cultivating creativity in the classroom through instruction. By reviewing these models, a researcher can build a repertoire of what teachers may include and use when working to cultivate creativity in the classroom through instruction. Another aspect of the classroom this review will focus on is curricular models that support creativity in the classroom.

Curricular approaches. In addition to instructional strategies, another important key to cultivating creativity in the classroom is curriculum. As Reid (2015) points out, nurturing creativity across the curriculum is essential if teachers want to empower those whom we teach to become competent and significant citizens (p. 1). In order to support students in their understanding and experiences of creativity, there are number of curricular approaches that could be implemented in the classroom. This section will explore several approaches teachers could incorporate in order to cultivate creativity in their classrooms.

Renzulli (2017) explains that the problems that humanity faces are not answered with predetermined answers that traditional instruction provides in the classroom (p. 24). Rather, students need the opportunity to engage with the curriculum, looking at a variety of possibilities and options, while teachers need to provide both students and themselves the opportunity to explore, thus modeling this creativity behavior to their students (Renzulli, 2017, p. 24).

When discussing curriculum and creativity, Starko (2018) identified four basic principles to consider when working towards cultivating creativity through the curriculum. These include:

- *What?* Organizing content around ideas and questions that can be viewed from multiple perspectives.
- *How?* Methods should include instructional strategies that require students to ask questions, generate varied options, and consider multiple perspectives.
- *Why?* Tie curriculum to the real world, making learning authentic.
- *How do you know?* Assessments include a variety of means to demonstrate learning, and/or use content in new ways (p. 209).

Keeping these key points in mind, this review will outline some approaches to curriculum that have been discussed in the literature (Thomas, 2000; Barry, 2010; Phillips, Harper, Lee, & Boone, 2013; Lombardi, 2007; Stoian, 2016) and could be implemented in the classroom.

Project-Based Learning. One curricular approach that has evolved over time is Project-Based Learning (PBL). Although there are different models, this is a teaching method in which students investigate authentic and engaging questions and problems. According to the Buck Institute for Education (BIE), PBL includes key knowledge, understanding, success skills, challenging problems or questions, sustained inquiry,

authenticity, student voice and choice, reflection, critique and revision, and finally a public product (2018). As explained by Thomas (2000), there are a number of ways to define PBL and what it entails, but in order to capture the uniqueness of Project-Based Learning he outlined the following five criteria (p. 3-4):

1) Project-based learning is central, not peripheral to the curriculum; in other words, it is the curriculum, central teaching and learning of concepts via the projects.
2) PBL is focused on questions or problems that "drive" students to encounter (and struggle with) the central concepts and principles of a discipline.
3) Projects involve students in a constructive investigation.
4) Projects are student-driven to some significant degree.
5) Projects are realistic, not "school-like." PBL incorporates real-life challenges that are authentic problems and/or questions and where solutions have the potential to be implemented (p. 3-4).

In his research, Thomas (2000) found that schools which implemented Project-Based Learning, such as Expeditionary Learning, demonstrated significant improvement in students' test scores on standardized tests (p. 9). The project-based curriculum is valuable in supporting creativity because it creates authentic problem-solving that is student driven, supporting the students' intrinsic motivation, encourages novel work that is appropriate, and has value because it completes the task at hand (Thomas, 2000).

Arts-integration. Another curricular approach is through arts-integration, which the Consortium of National Arts Education Organizations (1994) defines as "the use of two or more disciplines in ways that are mutually reinforcing, often demonstrating an underlying unity" (p. 13). The Kennedy Center has been working extensively on arts-integration through a program known as Changing Education Through Arts (CETA). According to CETA, arts-integration is an approach to teaching in which students

construct and demonstrate understanding through art forms. Students engage in a creative process, which connects an art form and another subject area and meets evolving objects in both (2010). Through this process students are not only allowed but encouraged to include creativity in their thinking and their work. The TURNAROUND ARTS program, also created through the Kennedy Center, found that in 2015 the schools involved with the center's arts-integration program noted significant improvement in academic achievement, reduction in discipline problems as well as an increase in class attendance (The Kennedy Center, 2017).

Arts-integration is also a central belief at the Think 360 institute; their vision is "A community that embraces the arts as a fundamental tool to enhance learning" (2018). The Think 360 Institute strives to help teachers cultivate and sustain the arts as essential to all learning through creative experiences for students and teachers (Think 360, 2018). Arts-integration seeks to include the arts because many researchers have reported improved academic performance in schools that include an arts-integrated curriculum (Barry, 2010; Phillips, Harper, Lee, & Boone, 2013). According to Bautista et al. (2016), "Many scholars have elaborated on the value of integrating the arts into the curriculum…it has been argued that the arts make learning much more stimulating, challenging, and complex" (p. 613). Although there are a number of approaches to arts-integration, Bautista et al. (2016) argue that the highest level of integration is achieved when the arts are equal to the other disciplines that are being presented (p. 614). Likewise, Beane (1997) strongly encourages schools to implement a full arts-integration model. He notes:

> Imagine for the moment that we are confronted with some problem or puzzling situation in our lives. How do we approach the situation? Do we stop and ask ourselves which part of the situation is language arts, or music, or mathematics, or history, or art? I don't think so. Instead, we take on the problem or situation using whatever knowledge is appropriate or pertinent without regard for the subject area lines. (Beane, 1997, p. 7).

By using a model such as arts-integration, teachers can support students' academic growth as well as cultivating creativity practices in their classrooms, by encouraging students to think more holistically (Mason, 1996).

Authentic learning. Authentic learning is an approach to learning that focuses on real life. The goal of this curriculum to assist students in creating ideas and tangible products that could be used in the real world (Revington, n.d.). Lombardi (2007) explains authentic learning as "going beyond content, authentic learning brings into play multiple disciplines, multiple perspectives, ways of working, habits of mind, and community" (p. 3). Revington (n.d.) a long-time authentic learning educator, writes that "Authentic learning engages all the senses allowing students to create meaningful, useful, shared outcomes" (p. 1). According to Lombardi (2007), researchers have distilled the essence of authentic learning down to the following ten design elements:

1. Real-world relevance: authentic activities that match real-world tasks.
2. Ill-defined problem: problems are ill-defined to open up to multiple interpretations and solutions.
3. Sustained investigation: students investigate for a sustained period of time.
4. Multiple sources and perspectives: Students examine tasks and sources and need to distinguish between relevant and irrelevant information.
5. Collaboration: working together to accomplish tasks.
6. Reflection (metacognition): learners make choices and reflect on their learning, both individually and as a team.
7. Interdisciplinary perspective: authentic activities extend beyond a single domain or subject area.

8. Integrated assessment: assessments are woven seamlessly into major tasks which reflect the real-world evaluation process.
9. Polished products: authentic activities culminate in the creation of a whole product, valuable in its own right.
10. Multiple interpretations and outcomes: authentic learning accounts for diverse interpretations and competing solutions. (p. 3-4)

Lombardi (2007) explains that the world is changing more quickly than ever, and individuals need to be able to identify and solve problems that have no routine solution (p. 10). By using a curriculum that supports authentic learning, teachers will be able to challenge students while supporting their interests and skills, in addition to creating diversified avenues to solve problems using creativity. An example that Revington described was students planning a Solar Car Race Derby. In an event such as this, students would have to design, construct, test, tune-up, and then race their cars (Revington, n.d.). But additionally, they would need to find a place to conduct the race, organize it, and establish rules, creating an authentic event and an authentic learning experience. Revington argues that experiences such as this "provide a very rich personal growth setting" (Authentic Learning or Not, para. 11).

Thematic. Thematic teaching begins with the identification of a THEME which student learning will be designed around. The theme topic could be either a required content topic or something the students chooses; once chosen, the theme then becomes the underlying concept that builds connections across different discipline areas. According to Tucker and Hafenstein (1997) choosing thematic work inspires students to make connections and find personal meaning through observations, inquiries, and investigations. Furthermore, Tucker and Hafenstein explain that thematic teaching allows

for flexible pacing, learning processes designed to promote creativity, and learning environments that are open and support of diverse learning styles and needs within the classroom (p. 196). The foundation of thematic learning—similar to the authentic learning curriculum—is that knowledge is acquired most effectively when students can associate what they are learning to their own personal lives or to the world around them.

In Stoian's (2016) research on thematic curriculum, she noted that constructivist pedagogy strongly supports thematic teaching, in that it supports students using real-world problem-solving to build knowledge and then reflect on these ideas and how their understanding is changing (p. 105). Additionally, Stoian describes the assessments that could be used continuously; these could include a variety of measurements such as portfolios, projects, group discussions, public theme presentations, possible development of work plans, and even assessments that focus on construction of knowledge (p. 105). Thematic learning is important to recognize when studying creativity because it allows and encourages students to create personal meaning, explore topics for an extend period of time, and opens the opportunity for students to demonstrate their learning in unique and novels ways.

Environment. Another important aspect of creativity that is discussed by a number of theorists in the field is environment (Amabile, 2012; Cloninger, 2008; Eisner, 2002; Beghetto, 2013; Starko, 2018). This section will examine the environment and how it impacts creativity through both physical and social-emotional aspects. As Starko (2018) describes, a creativity-friendly environment provides an atmosphere that makes it safe to take risks and where exploring creative ideas and interests is a part of a normal

classroom routine (p. 279). Eisner (2002) is also a proponent of creating "…a climate that welcomes exploration and risk-taking and cultivates the dispositions to play" (p. 162). Eisner explains that students need the opportunity to play with ideas, create new combinations, experiment, as well as fail (p. 162). Cloninger (2008) also points out that students need to work in environments that are safe, because when students feel safe they are more likely to take risks, participate in flexible thinking, and in turn engage in creativity. Environment has many facets that correlate with cultivating creativity, and to elaborate this review will explore the following environmental models: intrinsic motivation, risk-taking, and environmental design.

Intrinsic motivation. One aspect of environment that has been discussed in close correlation with creativity is intrinsic motivation. Amabile (2012) explains that intrinsic motivation occurs when an individual perceives value by engaging in the task itself; in other words, s/he finds the task interesting, positively challenging, satisfying, meaningful, etc. (p. 7). According to Amabile (2012), "The intrinsically motivated state is conducive to creativity, whereas the extrinsically motivated state is detrimental" (p. 7). In her early work, Amabile conducted an experiment to investigate how students responded to creating a project when they knew they would be evaluated. The result of her experiment found that students who felt they were going to be evaluated were less creative. The extrinsic motivator altered the motivational state, thereby undermining the students' creative behavior (p. 7). As Starko (2018) points out, Amabile suggests that in order to stimulate creativity, make sure to match the right people with the right assignment (p. 280). Although in this recommendation Amabile is talking about the business world, this

is applicable to the classroom as well, as long as one makes sure to match students with assignments that are challenging, but not too challenging. Amabile also notes that it is important to give choice, allow different avenues for students to meet goals, and encourage a sense of autonomy to help build intrinsic motivation (Starko, 2018, p. 280).

In addition to Amabile, Hennessey has done extensive research on creativity and intrinsic motivation. In her research Hennessey (2017) offers the following practical suggestions for change:

- Teachers must work diligently to create an interpersonal atmosphere that allows students to feel in control of their learning process.
- The classroom should be a place in which student behavior is self-determined. There is no room for intimidation or coercion.
- Teachers and administrators must step back and critically review the incentive systems that are currently in place.
- In situations where extrinsic incentives are in place, students must be helped to distance themselves from those constraints as much as possible.
- Teachers need to remember we are most creative when we enjoy what we are doing, so be sure to encourage students to take risks, experiment, have fun.
- Students must be helped to become more proficient at recognizing their own strengths and weaknesses (p. 245-246).

As the research suggests, intrinsic motivation is important when creating an environment conducive to creativity; therefore, it is important for teachers to keep this in mind (Amabile, 2012; Hennessey, 2017).

Risk-taking and creative self-efficacy. According to Beghetto (2013) there are two beliefs that play an important role in enhancing creativity: *creative self-efficacy* and *intellectual risk-taking* (p. 115). Beghetto explains creative self-efficacy as "a self-judgment of one's imaginative ability and perceived competence in generating novel and adaptive ideas, solutions, and behaviors" (p. 115). He explains that efficacy beliefs are very important because these beliefs help determine what effort students will put forth in order to increase their creative expression. Additionally, Beghetto explains that efficacy is a key enhancer to creative accomplishments by providing confidence and persistence necessary to move from mini-c to Big-C expression and achievement (p. 116).

In correlation with self-efficacy Beghetto (2009) notes the importance of intellectual risk-taking, "engaging in adaptive learning behaviors (sharing tentative ideas, asking questions, attempting to do and learn new things) that place the learner at risk of making mistakes or appearing less competent than others (as cited by Beghetto, 2013, p. 116). Risk-taking involves a vulnerability that can seem costly to students, and for this reason it is important to create a supportive environment. As Moroye and Uhrmacher (2010) state, risk-taking can lead to learning something new, but it is crucial that a teacher provide safe conditions for risks (p. 102). Sternberg (2007) also recognizes that creativity comes with a risk factor and that people sometimes make mistakes or fall flat on their faces, but that has to be something that is taught as acceptable and a necessary

part of the creative process. Sternberg writes, “Children need to be taught that uncertainty and discomfort are a part of living a creative life. Ultimately, they will benefit from their tolerance of ambiguity by coming up with better ideas” (p. 14).

In order to urge creativity in the classroom, teachers need to create an environment that is supportive and encourages risk-taking, even at the risk of possibly failing. Beghetto (2013) argues, Teachers can do much to support the development of their students’ healthy self-beliefs by encouraging creative expression and providing informative feedback on students’ creative potential and ability” (p. 116).

Environmental design. Similar to the importance of motivation and risk-taking, the environment has been identified as a highly influential factor in creativity (Piirto, 2004; Tharp, 2003). The idea of students sitting in desks, lined up in rows, and facing a teacher in order to have information divulged to them is becoming a thing of the past (Piirto, 2004, p. 101). In today’s world, classrooms as well as offices need to reboot in order to inspire workers and students to embrace their creativity while increasing their motivation. Some theorists such as Tharp (2003) would note, “You need a working environment that is habit-forming.” Others such as Amabile (2012) and Florida (2012) would argue that environment is a prominent factor that influences creativity. When it comes to granting freedom, the key to creativity is giving people autonomy concerning the means; that is, concerning the process but not necessarily the ends (Amabile, 2012, para. 4). Amabile argues that in order for someone to be creative they need a place where they have freedom to make choices and the security that it is acceptable to sometimes

fail. Furthermore, by providing a nurturing, trusting environment students will take chances to try something new, which can lead to the next innovative, and/or original idea.

Florida also supports the notion of environment being a key factor in creativity throughout his research. Florida (2012) explains, "Every job can and must be creatified; every worker must be empowered to harness his or her own inner entrepreneur (para. 4)." Here again we see the idea that freedom and autonomy will support the possibilities in creativity. Florida (2012) is also a big campaigner for early childhood education and the importance of supporting students' creativity when they are young, so that creativity will continue to blossom throughout their academic careers (para. 9). Additionally, it has been noted that teachers can play a significant role in fostering creative thinking (when permitted to do so) by modeling creativity and providing "congenial environments" (Florida, 2012). "Certain environments facilitate interaction and provide more excitement and a greater effervescence of ideas" (Csikszentmihalyi, 1996, p. 6).

According to a literature review by Davies et al. (2013), the recommendations for creating creative environments included: being flexible with space and time; making a variety of appropriate materials and tools available, to stimulate creativity; working outside of the classroom/school; using play or game-based approaches with a degree of autonomy for the learner; respectful relationships; opportunities for collaboration; partnerships with outside agencies; awareness of learners' needs; and non-prescriptive planning. Looking at the Davis et al. (2013) study, there are a number of elements that are necessary for students to thrive in their creativity. Additionally, the recommendations appear to be practical since the elements of these environments materialized a number of

times in the review. The evidence from the Davis et al. (2013) study also suggests that creative learning environments can increase students' confidence and resilience; motivation and engagement; development of social, emotional, and thinking skills; and improved attendance (p. 88).

Starko (2018) suggests that in order for students to engage in creativity, they need more experiences with choice in order to move towards autonomy. For this to happen teachers need to learn how to organize their classrooms and materials in a way that allows students to work self-sufficiently (p. 301). Starko goes on to explain that teachers can use anchor activities, centers, learning contracts, and open-ended activities that keep the students engaged, motivated, and able to work at pace that suits their learning needs. Students that don't feel pressured to complete tasks tend to use more creativity. This would require a classroom setup with different spaces in order to complete different tasks both individually and collaboratively, with all materials they need easily accessible. According to McIntosh (2010) students need spaces such as:

- *Private spaces*: places students can work alone, stop and regroup, curl up with a book, think.
- *Group spaces*: where students can work together either digitally or otherwise; this can also be an outdoor space.
- *Publishing spaces*: A place for students to share work; this could be virtually or physically in the classroom depending on what work the student is completing.

- *Performing spaces*: a place where students can become someone or something they are not. This can be virtually or physically, but this is a place where ideas can be shared and displayed through performance.
- *Participation spaces*: A space that can be an ongoing community action, where large numbers of students can participate simultaneously. An example could be community garden.
- *Watching spaces*: these spaces are for students to watch, problem find, inquire, and listen.

Piirto (2004) is also a proponent of spaces for students to work in—privately or together—but spaces that encourage creativity, who focus almost completely on creativity. Allowing space to engage in different tasks and to problem find, explore, create, can support students to engage in creativity. As Beghetto (2013) explains, "Understanding how the school and classroom environment impact creativity sets the stage for more purposefully incorporating creativity into the everyday curriculum" (p. 117).

Professional Development and Creativity Institutions

Although the importance of creativity has been noted previously, the amount of professional development and programs dedicated to cultivating creativity appear to be limited. In order to understand what a program that supports cultivating creativity might look like, this review explored two programs that are designed to support creativity. The first program the Kennedy Center's CETA program, which was chosen based on its nationwide notoriety, and the Aesthetic Education Institute of Colorado which was

chosen by its notoriety in the Denver metro area. The first program is the Kennedy Center's CETA program. Since 1999, the Kennedy Center has been creating a network of partnership schools in the Washington, DC area to provide professional learning experiences to teachers. According to CETA, "this approach to teaching is grounded in the belief that learning is actively built, experiential, evolving, collaborative, problem-solving, and reflective" (CETA, 2010). Through the Kennedy Center, teachers may enroll in professional development workshops as well as courses that support teachers in cultivating the arts and in turn creativity.

In addition to the Kennedy Center, the Aesthetic Education Institute of Colorado (also known as Think 360 Arts for Learning) is another program that supports teachers in cultivating creativity. Based in Denver, Colorado, Think 360 was established more than 50 years ago and supports arts education programs through professional development opportunities for educators. Think 360 provides programs such as Creative Learning Labs and the Institute for Creative Teaching, which support practices to create and sustain educational environments that foster creativity, innovation, student engagement, and 21st century skills (Think 360, 2018). The Institute for Creative Teaching is in collaboration with the University of Denver and features Dr. Bruce Uhrmacher's concept of CRISPA. As described in Chapter 1, one aim of the Think 360 institute is to discern and communicate the important qualities of aesthetic educational experiences to teachers, so that in turn educators may consciously employ these qualities throughout their curriculum, offering creativity opportunities for both teachers and students (Moroye & Uhrmacher, 2010, p. 100-101). CRISPA is comprised of six themes that include:

Connections, **R**isk-taking, **I**magination, **S**ensory experiences, **P**erceptivity, and **A**ctive engagement. Moroye and Uhrmacher (2010) argue that through CRISPA students have opportunities to have an extraordinary learning experience. This extraordinary experience provides opportunities for students to have aesthetic experiences, which in turn, encourages creativity (p. 101).

Although this review describes two programs that are working to cultivate creativity through professional development for educators, there appears to be a lack of professional development overall for both pre-service and experienced teachers. Newton and Newton (2014) noted in their research that the provision of adequate training was an issue they noticed and that it needs to be addressed (p. 585). Additionally, Makel (2009) explained that despite the universal acceptance of creativity's importance in education, the typical curriculum of any college or university has yet to include it as an integral part of teacher training (p. 39). And McDonough and McDonough (1987) suggested that a limited number of faculties and universities in America have managed to include subjects related to creativity education in their courses. With that being said it is also important to note that creativity is being included in certain standards such as the Colorado State Gifted Education Specialist Endorsement Standards. According to the CDE (Colorado Department of Education) these standards include: 9.05 (2) (a) (2) Past and proven documented current theories related to creativity and the expression of talent; and 9.05 (2) (c) (i) Various types of giftedness and talent, including creativity. Noting expectations such as these provides evidence that creativity is being recognized within certain realms of education.

Empirical Evidence Overview

The empirical evidence presented in this section includes studies that are closely related to the research questions established for this study, which include: *What are teachers' perceptions and beliefs about creativity? What kinds of experiences did teachers have in order to gain understanding and inspiration about creativity? What barriers do teachers perceive relative to cultivating creativity in elementary and middle school education? What supports do teacher find beneficial in nurturing creativity education in elementary and middle school education?* The studies included were identified through a search in the domains of education and educational psychology using key words "creativity" AND "teacher training," "creativity AND professional development," and "creativity AND teacher perceptions." Articles were then selected according to the inclusion criteria and reviewed using Braun and Clarke's (2006) thematic analysis. After thematic analysis of the reported data, five themes emerged in at least two or more of the articles; these were then cross-analyzed for further evidence. This section will further elaborate on the details of the empirical evidence.

Literature search procedures. Empirical evidence was gathered through the search domains of education and educational psychology. The methods conducted to gather information for this review started with a search within the database of ERIC. The following key words were used: "creativity AND teacher training," "creativity AND professional development," and "creativity AND teacher perceptions." Through this search, over 600 articles were identified. Google Scholar was used to supplement the ERIC search when the articles were not available. To refine this search, the inclusion was

narrowed to the years 2007-2017 in order to focus on the most recent studies, which brought the results to 171. For this review, studies focusing on general education and core curriculum classes were considered which narrowed the field down to the following articles.

Inclusion criteria. In order to narrow down the results collected from the initial search, six criterions were applied. *Table 3* further outlines the six criterions and the rationales.

Table 3 - Inclusion Criterion and Rationales

Inclusion Criteria	Rationale
Pre-Kindergarten – Middle School	This criterion was established since this proposed study is focusing on elementary and middle schools. In order to gain information specific to these grades the studies outside of the grade levels were eliminated. Pre-kindergarten was included because the studies were Pre-K-3rd grade, and the K-3rd grade are relevant to this study.
General Education and Core Curriculum classes/teachers	The aim of this study is to understand how core teachers and general education teachers cultivate creativity in the classroom; therefore, studies focusing on other subjects or areas were eliminated.
Traditional teacher-based instruction	The focus on traditional teacher-based instruction was important to include in order to maintain specificity of this study.
Written in English	This study does not have the resources to translate and evaluate non-English articles.
Peer Reviewed	All studies included in this empirical review were peer reviewed to ensure validity and professionalism.
Qualitative and Quantitative	Both qualitative and quantitative studies were included to give a more comprehensive review.

Search methods. The initial search identified 171 articles that focused on creativity. To refine this search, the articles were reviewed again by titles and abstracts using the six set criterion to check relevance according to this review. After eliminating

articles based on the information in the titles and abstracts, the final review of articles included reading articles in their entirety and identifying the six criterions specifically described within the articles. As a result, ten articles that focused on general education classroom teachers between the years 2007-2017 were identified and used for this review.

After identifying the ten articles, each article was re-read thoroughly, and data was analyzed using thematic analysis. Braun and Clarke (2006) describe thematic analysis as a qualitative analytic method for "identifying, analyzing, and reporting patterns (themes) within data (as cited by Mullet et al., 2016, p. 79). The process includes the following six phases of analysis: becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, and defining themes. After coding for themes and big ideas, themes that were mentioned at least two times by multiple authors were then identified as an important theme for this review.

Identified articles. The following articles were identified for this study: Kampylis, Berki, and Saariluma (2009); Hosseini and Watt (2010); Olivant (2015); Colley (2015); Henriksen and Mishra (2015); Al-Nough, Abdul-Kareem, and Taqi (2014); Mullet, Willerson, Lamb, and Kettler (2016); Newton, L., and Newton, D. (2010); Rubenstein, McCoach, and Del Siegle (2013).

Themes. After thematic analysis of the data reported in the articles, the following themes emerged in at least two or more of the articles:

1) Teachers value creativity.
2) Teachers as role models in the development of creativity.
3) Teachers' confidence and understanding of how to define or cultivate creativity.

4) High-stakes testing as well as curriculum demands affect teachers' autonomy and their ability to foster creativity.
5) Impact of teacher training in creativity.

To further understand each of these themes and how they were presented in the studies the following elaboration of each theme is presented.

Teachers value creativity. As indicated through the research, one theme that emerged was that teachers value creativity in the classroom and feel it is important in students' learning (Kamphylis et al. 2009; Mullet et al. 2016; Cho et al. 2017; Henriksen & Mishra, 2015; Rubestein, McCoach, & Siegle 2013). According to Kamphylis, Berki, and Saariluoma (2009), "teachers see creativity as an important component of teacher agency and [they] highly value the role creativity plays in helping children learn and enjoy learning" (p. 17). In the findings of Mullet et al. (2016), teachers believe creativity is important for both students and society. Additionally, in the survey analysis from Cho et al. (2017), they observed that out of five major themes, four of them focused on teachers valuing creativity. The specific themes focusing on teachers valuing creativity include (a) educators valuing creativity, (b) educators recognizing the importance of creativity (especially in the early years), (c) educators recognizing their role in nurturing creativity, and (d) seeing creativity as helpful in academic learning. Noting how teachers value creativity is important in gaining insight into their perceptions of creativity, and how they might attempt to include creativity in their teaching practices.

Teachers as role models of creativity. A second major theme that arose was teachers as role models of creativity. Kamphylis et al. (2009) identified that teachers are

very important in the development of students' creativity because they are a creativity role model for their students. Hosseini and Watt (2010) argued that teachers have an integral role in education, and by providing teachers with better opportunities for professional development in areas such as creativity, they will then be able to influence students' skills in a positive manner.

Teacher confidence and understanding of creativity. The third theme that emerged was the idea that teachers lacked confidence and understanding in how to define creativity as well as what creativity includes. Colley (2015) noted that a limitation within her study was the complexity of the term "creativity." Mullet et al. (2016) found in their study that although teachers valued creativity in school and society, they often defined it in broad terms, struggling to specifically define creativity. Kampylis et al. (2009) wrote that teachers themselves did not feel well-trained and confident enough to facilitate creative thinking. In their overall findings, Mullet et al. (2016) "found that teachers' conceptions of creativity were limited, vague, or confused" (p. 27). Additionally, they noted that where researchers see creativity as multifaceted—including a process, product, attributes, and environmental characteristics—the teachers did not recognize creativity's multifaceted nature. Using factor analysis, Cho et al. (2017) revealed three major barriers that were extracted from their study; one of the barriers was the lack of educators' understanding of creativity. Cho et al. (2017) elaborated in their study that "respondents did not have a clear or concrete understanding of creativity, and perceived that their problematic and somewhat ineffectual conceptualization of creativity hindered them from nurturing it in their classrooms" (p. 15). Newton and Newton (2010) confirmed in their

studies that teachers had a narrow concept of scientific creativity and confined students to experimental designs based on factual information. Kamplis et al. (2009) noted that although teachers felt that facilitating students' creativity was crucial for personal and social well-being, they did not feel well-equipped to act as facilitators for students' creativity.

High-stakes testing and curriculum demands. The fourth theme focused on the idea that both high-stakes testing and curriculum demands limited teachers' autonomy and ability to foster creativity. Within the conclusion of her study, Olivant (2015) discussed how the teachers in her study made a strong connection between cultivating creativity and professional autonomy. The teachers viewed fostering creativity as a means of helping students to use creativity to learn and feel successful. With this mindset, they felt that the current high-stakes testing climate was negatively affecting their ability to foster creativity and creative thinking, and that there was more of emphasis on conformity and compliance. In the Cho et al. (2017) study, one of their three barriers was curriculum restrictions and high-stakes testing environments, which teachers responded was a "huge pressure" (p. 9).

Impact of teacher training in creativity. The fifth theme focused on the impact of teacher training in creativity. Only two studies discussed teacher training (Hosseini & Watt 2010; Mullet et al. 2016), and within those two studies only Hosseini and Watt elaborated on the impact of teacher training. Hosseini and Watt's (2010) study was the only quantitative study that was conducted quantifying the results of how teacher training impacts student creativity. Hosseini and Watt (2010) found in their research that teachers

have a limited understanding of creativity, which is why they designed their study around professional development on creativity. They discussed that in order to maximize student outcomes as it relates to their creative nature, it is crucial that the teacher have the appropriate training, and as a result they wanted to assist teachers to "acquire knowledge, attitudes, and skills associated with improved student creativity" (p. 432). In the experimental group, teachers underwent teacher training in workshops that required five hours of participation per week over the course of four months. Teachers would learn new creative strategies and pedagogies and would then implement them in their classrooms and receive feedback from a coordinator on their practices. The results of this study demonstrated that students in the experimental group scored significantly higher in creativity as assessed by the TTCT (Torrance Test of Creative Thinking) than the control groups. In the findings of Mullet et al. (2016) they also noted that "training had a substantial effect on teachers' definitions of creativity" (p. 27). They further elaborated that after professional development, teachers' understandings of creativity became more mature and aligned closer to researchers' definitions (the type of professional development was not disclosed in this article).

Conclusions

As shown above, although there is a great emphasis on the idea of creativity in education, its actual implementation is unclear. The research questions that drove this review are: *What are teachers' perceptions and beliefs about creativity? What kinds of experiences did teachers have in order to gain understanding and inspiration about creativity? What barriers do teachers perceive relative to cultivating creativity in*

elementary and middle school education? What supports do teacher find beneficial in nurturing creativity education in elementary and middle school education?

After reviewing the ten studies for this literature review there were some important themes that arose around teacher perceptions of creativity and teacher training. Although teachers tend to value creativity and understand that they play an important role in cultivating creativity within the classroom (Kamphylis et al., 2009; Mullet et al., 2016; Cho et al., 2017; Henriksen & Mishra, 2015; Rubestein, McCoach, & Siegle, 2013) they often lack confidence and understanding of how to cultivate creativity (Colley, 2015; Kamphylis et al., 2009; Mullet et al., 2016; Cho et al., 2017). In addition to not feeling confident teachers also felt constraints of time when preparing for high-stakes testing, as well as being tied to specific curriculums that inhibited their ability to foster creativity (Colley, 2015; Olivant, 2015; Al-Nouh et al., 2014; Cho et al., 2017). Although studies shared common teacher perceptions that helped to answer the first, third, and fourth questions, the research supporting the second question on teacher training was not as prevalent, and in fact was difficult to find.

According to the two studies that did discuss the impact of teacher training in creativity, both reported that the training had positive effects on teachers' understanding and confidence in cultivating creativity (Mullet et al., 2016; Hosseini & Watt, 2010). Additionally, Hosseini and Watt were able to report the positive impact teacher training had on students' scores on the TTCT. Although these findings are positive, their limited number makes it difficult to definitively state that teacher training is imperative to the cultivation of creativity in the classroom.

Future Research

After investigating the above-mentioned studies, there appear to be gaps in the research that warrant further investigation. In these studies, there was a surplus of information outlining and describing teachers' perceptions of creativity, and teachers' shortcomings in their ability to understand and cultivate creativity within the classroom. Keeping this in mind, there was only one study (Henriksen & Mishra, 2015) that looked at teachers who felt confident in their understanding of creativity and their ability to foster creativity within their classrooms. Additionally, there were several studies that focused on art, music, and elective teachers, but not on general education teachers. As a result, the aim of this study was to further investigate teachers who feel they understand what creativity is and feel confident in their ability to cultivate creativity in the classroom. This study focused on core and general education teachers in kindergarten-middle school. Through this qualitative case study of five participants, this study interviewed, observed, and collected data from classrooms of these teachers in order to gain insight into how teachers are cultivating creativity in the classroom.

CHAPTER THREE: METHODS

Overview

As discussed previously, there appears to be a gap between the expectation for teachers to incorporate creativity and its actual implementation. While research indicates that teachers value creativity and understand the important role they play in cultivating student creativity within the classroom (Kamphylis et al., 2009; Mullet et al., 2016; Cho et al., 2017; Henriksen & Mishra, 2015; Rubestein, McCoach, & Siegle 2013), teachers often lack the confidence and understanding of how to cultivate creativity in the classroom (Colley, 2015; Kamphylis et al., 2009; Mullet et al., 2016; Cho et al., 2017). To further investigate this gap, in addition to teachers' perceptions and beliefs about creativity in elementary and middle schools, this study addressed the following research questions:

1. What are teachers' perceptions and beliefs about creativity?
2. What kinds of experiences have teachers had in order to gain understanding and inspiration for creativity?
3. What barriers do teachers perceive relative to cultivating creativity in elementary and middle school education?
4. What supports do teachers find beneficial in nurturing creativity education in elementary and middle school education?

To address these research questions, this study investigated five teachers' perceptions and beliefs of creativity and their implementation of creativity practices within the classroom through a collective case study. The participants in this study were selected based on their willingness to participate as well as their beliefs about creativity. Data was analyzed using Braun and Clarke's (2006) thematic analysis. Thematic analysis allows for flexibility when gathering and analyzing data in order to seek out the "diamonds" in the research. According to Braun and Clarke (2006), "thematic analysis provides a flexible and useful research tool, which can potentially provide a rich and detailed, yet complex account of data" (p. 78). In their article, Braun and Clarke explain how thematic analysis is a method that can work to reflect the reality of the data being gathered, as well as to unpick or unravel the surface of that 'reality' (p. 81). As defined by Braun and Clarke, "a theme captures something that is important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set" (p. 82). An important aspect to note about their model of thematic analysis is that, in contrast to theoretical thematic analysis, the Braun and Clarke model tends to be driven by the researchers' interest, and therefore is more explicitly analyst-driven.

In addition to thematic analysis, this study followed Creswell's (2013) "With-in Case Analysis" which was completed first, followed up with a "Cross-Case Analysis" in order to find homogeneity and variance among the cases (to be discussed in greater detail in the data analysis section of this chapter).

Participants

The participants for this study were recruited based on their perceptions and beliefs about creativity. Teacher characteristics included teachers who feel they cultivate creativity through instructional strategies, curriculum, and/or environment and were recommended by their administration as someone who cultivates creativity. This study interviewed five full-time teachers working in public elementary and middle schools in sub-urban Denver during the 2018-2019 academic year. In order to gain access to the willing teachers, principals were contacted via phone and email about possible participants. The participants were a non-random, convenience sample that was recruited based on principal recommendations. From the pool of educators, participants were chosen based on meeting the following requirements: they were full-time teachers, have a basic understanding of creativity, and were open to cultivating creativity in the classroom according to their administration.

Setting

The setting for this study is in classrooms of both elementary and middle schools in the sub-urban areas of Denver, Colorado. This study looked into public schools that are in accordance with state guidelines.

Research Instrument

The instrument that was used for this study is a semi-structured interview protocol that was open to adding in follow-up questions as needed. This study used a hybrid of interview questions created from the Cho et al. (2017) study on creativity in early childhood, as well as questions developed based on the research questions and questions

developed based on the novel framework. These questions focused on four categories: perceptions and beliefs of creativity, instructional strategies, curriculum, and environment. The interview questions were subject to content verification by the researcher and undergo expert review by professors in the Morgridge College of Education at the University of Denver. In addition, the interviews were piloted on four educators to gain feedback and adjust questions before they were used in the research. Below is a chart that shows the alignment of interview questions to research questions and novel framework.

Table 4 - Interview Questions and their Alignment with Research Questions and Novel Framework

Research Questions and Frameworks	Interview #1 Questions	Interview #2 Questions
Research Question #1	5, 6, 7, 8, 9, 15	1, 2, 3, 8, 12, 13
Research Question #2	5, 9, 15	4, 5
Research Question #3	12,10	2,7,13
Research Question #4	10, 11	2, 6, 13
Mini – c	9, 10, 13	8, 10
Little – c	9, 10, 13	8, 9
CRISPA	9, 10, 14	8, 11, 12

Research Design

In order to gain an in-depth understanding of how creativity is being realized and implemented in the classrooms by teachers in elementary and middle school classrooms, I conducted an instrumental case study. The intent of this case study was to further investigate the "creativity gap," as Matthew Makel (2008) describes the disparity between adults valuing creativity yet not fostering creativity in students. A collective case study approach was used in order to investigate this topic with multiple case studies in order to show different perspectives as explained by Creswell (2013, p. 99).

In reference to methodologists to follow, this study aligned more closely to Stake's (2005) ideas because of their flexibility, but Yin (1981) also influenced this study. Stake (1995) is more of a constructivist, which is indicative of flexibility and the idea that discovery and interpretation occur concurrently. Within Stake's methodology, he notes that a conceptual framework is not necessary, but might be used in the beginning. Stake's (2005) case study approach allows for a search of "happenings" with the goal being intricacies of a phenomenon through real-life contexts. A conceptual framework was used, but was also flexible to the "happenings" that were occurring in the classrooms.

In contrast to Stake, Yin (1981) argues that a successful use of case study requires the researcher to follow an explicit design (p. 103). He further explains that with a diversity of sources, data collection must be guided by protocols to ensure that similar procedures are carried out from one case to the next (p. 105). In order to uphold

reliability within the data collection, specific interview and Creativity Journal protocols were used to ensure that data collection was collected consistently in each case study. By incorporating specific methodologies from both Stake and Yin, the research was open to possibilities and happenings while also maintaining replication through protocols in order to ensure reliability and validity.

Procedures

To begin, this study obtained approval from the Institutional Review Board through the University of Denver and local school districts before participant recruitment began. Once approval was granted, school principals in the Denver metro area were approached through phone calls and emails requesting their willingness to participate by recommending teachers for this study who met the criteria mentioned previously. I continued this process until I was able to recruit five teachers for this study.

Interviews. Once participants were established, two different interviews were set up to take place within a period of two months. Interviews were conducted in a space that was most convenient for the participants, which was usually their classrooms. Participants answered questions according to the semi-structured interview protocol consisting primarily of open-ended questions. Each interview lasted approximately one hour, and teachers had the opportunity to elaborate on topics at the end of each interview, but none felt the need to elaborate. Yin (1981) argues that it is important to have the evidence reviewed by the informants in order to validate the data collected (p. 106). To honor this and to ensure the data was valid, each interview session was recorded and transcribed, after which interviewees were given an opportunity to review their

transcripts for accuracy. Yin notes that although the informants may disagree with interpretations, they should find that basic facts have not been misconstrued (p. 106). (Please see Appendix A and B for interview questions.)

Creativity journals. In addition to interviews, participants were asked to keep a Creativity journal, making entries during the study's two-month time period. The entries could have included ideas about creativity, things they have learned, ways their thinking may have changed, their own creativity journey, and concepts about creativity in the classroom including instructional strategies, curriculum, and environment. (Please see Appendix C.) Teachers were asked to make entries when they had time and wanted to include some ideas about creativity, no set standards was established for number of entries.

Observations. Observations were conducted during a two-month period in order to diversify data collection for validity. Observations aligned with interview times in addition to occasions with variations in length of time. The intent was to be purely an observer of the class, and to take notes on instruction, curriculum and environment in relation to interpretive frameworks. This study focused on teacher instruction and direct quotes, curriculum structure, participation and student engagement, considerations of classroom environment, environmental elements that include both social-environmental as well as tangible. During this time, the intention was to primarily record observations, but also take photographs of the classrooms and student work (without student names).

Data Analysis

Interviews were recorded and transcribed, and then verified for accuracy by listening to the recordings while reading through transcriptions. Additionally, participants received copies of transcribed interviews, to verify that content and facts were accurate as recommend by Yin (1981). The data collected was then reviewed for themes. In order to ensure a strong thematic analysis, Braun and Clarke's (2006) six-phase thematic analysis was used, which includes becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining themes and producing the report. (*Table 5* explains these phases in further detail.)

Additionally, using Creswell's (2013) case study analysis, a description of each case was written including a thematic analysis, which is known as a "With-in Case Analysis," followed by a thematic analysis across the cases known as a "Cross-Case Analysis" (p. 101). These processes helped to identify similarities and differences within each of the participants in the overall case study.

Participants also kept Creativity Journals. The journals were a resource teachers could use to write down their thinking about creativity during the two-month period when the researcher was not present. Journals could include ideas about creativity, things the teachers have learned, ways they have changed their thinking regarding creativity, their own creativity journey, and concepts about creativity in their classroom as far as instructional strategies, curriculum, and environment. Journals were collected by the researcher to look for connections between what participants stated in their interviews as well as what was noted in observations. These were compared to the interpretive

frameworks of the study to help develop a more in-depth understanding of teachers' perceptions and beliefs of creativity as well as their practices in their classrooms.

Table 5 - Thematic Analysis

Phase	Description of Process
Familiarizing yourself with data	Transcription of verbal data in order to become more familiar with data. Next, total immersion within the data, reading and re-reading data actively, searching for meaning and patterns. Start taking notes or marking ideas that stand out for use in subsequent phases.
Generating initial codes	In this phase researcher begins producing initial codes from data. According to Boyatzis (1998) as cited by Braun and Clarke, "codes identify a feature of the data (semantic, content, or latent) that appears interesting to the analyst, and refer to the most basic segment, or element of the raw data or information that can be assessed in a meaningful way" (2006, p. 88).
Searching for themes	During this phase, researcher will look for themes by sorting the different codes into possible themes. It may be helpful to use visual representations to sort the different codes into themes.
Reviewing themes	During this phase researcher will review and refine themes. Level one will include reviewing candidate themes to make sure they adequately capture the coded data. Level two is similar, but looks at the entire data set and how the ideas fit and work together. At the end of this phase themes should be fairly established, fit together well, and tell the overall story of the data.
Defining and naming themes	In this phase researcher will define and further refine themes that will be used in analysis. During this time, look for the essence of what each theme entails and what aspect of the data the theme captures. Each theme is a piece of the puzzle; assembled, they creates a picture of the data and how it relates to this research.
Producing report	This phase begins after all the themes are fully established and the researcher is ready for the final write-up of the report. The write-up needs to include sufficient evidence for each theme within the data, including vivid and concise details.

In addition to interviews and creativity journals, observations were reviewed for emerging themes and concepts. Looking through the conceptual frameworks of mini-c, little-c, and CRISPA, in addition to creativity models addressed in the literature review, this study looked for concepts about teacher's beliefs around creativity. Although these were viewed through the lens of the afore-mentioned conceptual frameworks, the research was also open to other discovery and interpretation through Stake's (2005) ideas of "happenings."

Summary

In summary, this collective case study was conducted in order to gain a deeper insight into teachers' perceptions and beliefs about creativity in elementary and middle schools. As noted before, the lack of clear definition as well as ambiguity in the field leads to confusion and uncertainty about creativity and how to implement best practices around creativity that enhance the classroom. The intent as discussed previously, was to take a closer look at the "Creative Gap" that Makel (2008) described as the disparity between adults valuing creativity yet not cultivating it in student learning. Although research has documented the benefits of creativity, researchers investigating creativity in the classroom noticed a trend in teachers' limited understanding of what creativity is and includes (Cho et al., 2017; Kamphlis et al., 2009; Colley, 2015; Hosseini & Watt, 2010; Al-Nouh et al., 2014). This case study looked closely at teachers' perceptions and beliefs about creativity, to further understand what strengths they may have in cultivating creativity, as well as the challenges they face when trying to implement creativity practices in their classrooms. Additionally, by looking at teachers' training and

professional development in creativity, we can begin to identify what supports they may or may not have while working on this creativity endeavor.

About the Researcher

As a teacher I have had the pleasure of teaching 1st-7th grades in several diverse settings. My first full-time position was teaching second grade in a K-5 public school in the suburbs of Charlotte, North Carolina. The neighborhood was upper middle class, but the school also bused in students from downtown Charlotte, so our student body was a great mix of social-economic background and cultures. At the time I didn't realize how wonderful this dynamic was and how it created amazing learning opportunities about life, culture, differences, for myself as well as the students. The curriculum for this school was wide open; there was no prescribed programming for reading, math, science, or social studies, so teachers could create lessons based on content objectives set by the state. As a grade level, all the second grade teachers would meet weekly to plan lessons, discuss ideas, and share materials. Teachers were encouraged to use their discretion regarding what would be best for students, and our grade chose to teach thematic units that would last approximately a month at a time. Again, as a novice teacher I did not realize how wonderful this opportunity was, to have autonomy, the freedom to use my judgment towards what was best for my young students, and the flexibility to use teachable moments as they arose in our daily lessons. This scenario for a beginning teacher was ideal; I thrived, and so did the students, even by standardized test measurements, which they met or exceeded every year.

After three years in Charlotte, I decided to move back to my home state of Colorado and continue my teaching career. Initially I started teaching in a suburb of Denver that was primarily low-income families, many of whom spoke English as their second language. At this school I taught 4th and 5th grade, even looping one year with my students. However, these students were not meeting expectations on state standardized tests, so there was intense pressure to improve student performance in order to get them up to grade level. At this time, I was still a new teacher, eager to work hard and support my students perform at grade level, to help them achieve their best. Although the families were wonderful, they faced many struggles—including poverty, a transient home life, speaking English as a second language—so school, understandably, wasn't always a priority. With these challenges, it became even more important for me to support all of my students in far more ways than academics, but I soon realized the problems they were facing were much bigger than me. Meanwhile, the school district was putting a lot of pressure on all teachers to improve student scores; eventually those expectations became overwhelming.

When I first started, this school's only required program was in reading, but it wasn't entirely structured, so teachers still had some freedom to work in ways they felt were best for students. But over the next four years that shifted dramatically as the school adopted a new word-for-word prescribed reading program, a new math program that required all teachers in all the metro area schools to teach from the same exact pages at the same time throughout the year, plus a new spelling program and a new science curriculum. As an educator I lost all of my freedom, my autonomy, and my ability to

choose what was best for my students. Worst of all, I lost my ability to be creative and teach creativity within my classroom. I felt stifled, and my students felt it too. Overworked, they pushed through mundane exercises that had no connection to their actual lives. These students often dreaded school, and I couldn't blame them. After a push for data-driven instruction that viewed students as numbers, not unique human beings with many and varied learning needs, I decided to move on. I couldn't continue on this path, but I felt a lot of guilt as I left, knowing that my students didn't have the choice to leave.

The next school that hired me was a middle school in another suburban area of Denver, but this one was located in a more affluent area. The students performed well on tests and the expectation was to maintain this high level of performance. Although I don't believe testing is the best way to measure students' intelligence and understanding, these tests do have their place in our current educational system, so I've always accepted them. With that being said, this new school brought me back to my previous experience in Charlotte. There were no prescribed curriculum programs, and teachers had the autonomy to teach students in a manner they felt best in order to meet state-set content objectives. Instantly my enthusiasm returned; I was excited to teach, and my creativity was engaged once again! The students were coming to school to think, explore, inquire, invent, and use creativity. Teaching them was about more than meeting state standards; it was helping them become future citizens of our world.

Through all of these experiences, I began to reflect on what supported my students—and myself—to thrive, to engage, and to be excited about learning. I was able

to identify specific aspects that supported students in engaging in critical thinking, innovation, novel experiences, and a willingness to take risks; creativity was one of these aspects that I found most impactful. As a result, through my dissertation I looked to discover how teachers in schools across the Denver metro area are engaging students, via creativity in the classroom, to support them throughout their learning journeys.

CHAPTER 4: DESCRIPTION OF TEACHERS AND THEIR CLASSROOMS

Introduction

This chapter will begin with a description of the five participants in this study as well as a description of the findings as it relates to the framework. To review, the purpose of this study was to gain insight into general education teachers' understandings of creativity and how they cultivate creativity in their classroom practices in elementary and middle schools of sub-urban areas of Denver, Colorado. By looking more closely at teachers' perceptions and beliefs of creativity, this study attempted to further comprehend teachers' understandings of creativity in the classroom and how they are implementing creative practices in their classrooms in order to support the creativity of their students. Additionally, this study aimed to identify implications teachers face when trying to define and implement creativity practices in their classroom.

As participants in the study are introduced and information is shared about their backgrounds and the schools where they currently teach, it is important to note that, per confidential agreements, pseudonym names are used for participants and their schools. These participants were recruited by sending emails to several principals in different school districts around the Denver metro area, seeking subjects for a study about creativity, and requesting the school administrators to recommend teachers they felt

cultivated creativity. The final participants chosen for this study were selected based on the willingness of the principal and the teachers to commit to the entirety of this two-month study. Each participant was recommended—by a principal in collaboration with other administrators within a given school—as a teacher they felt cultivated creativity in the classroom. This study intentionally sought out schools that didn't necessarily focus on creativity, in order to understand how general education teachers cultivate creativity based on their own beliefs and philosophies.

In order to build clear connections between the framework and the findings, this study aligned the findings from the data collection with each section of the framework, including mini-c, little-c, and CRISPA, for every participant. To briefly review, according to Beghetto and Kaufman (2017) mini-c is defined as "the novel and personally meaningful interpretation of experiences, actions, and events" (p. 73). Little-c is the lens of creativity that is viewed as being present in everyday experiences, and it can happen with any student, on any given day, in any subject (Beghetto & Kaufman 2017; Starko, 2018). Craft (2003) noted that this includes having a grasp on the application and appropriateness of their ideas while involving imagination, intelligence, and self-expression (p. 148). The final lens that this study looked through was CRISPA. According to Moroye and Uhrmacher (2010), the goals that schools should aim for are to provide exemplary situations and environments for learning to occur. This could be accomplished through aesthetic learning experiences, with the result being creativity (p. 101). The intention of CRISPA is to provide support for that goal through Connections, Risk-Taking, Imagination, Sensory Engagement, Perceptivity, and Active Engagement.

Participants

The participants in this study came from three different schools in sub-urban areas of Denver, Colorado. Two were elementary schools, while the third school was a middle school for sixth through eighth grades. *Table 6* seen below summarizes the participants and schools in this study.

Table 6 - Summary of Participants and School Statistics

	Current Position	Years of Experience	School Statistics	Data Collection
Ms. Douglas	Kindergarten	13 Years	Student Enrollment: 369 Minority: 91.6% Free/Reduced Lunch: 84.8%	September 25 – November 27th 2018
Ms. Thatcher	3rd Grade	14 years	Student Enrollment: 431 Minority: 21.96% Free/Reduced Lunch: 10.4%	October 22nd – December 21st 2018
Ms. Harper	5th Grade	4 Years	Student Enrollment: 369 Minority: 91.6% Free/Reduced Lunch:84.8%	September 27th- November 28th 2018
Mr. Sawyer	7th Grade language arts	10 Years	Student Enrollment: 1,458 Minority: 20.1% Free/Reduced Lunch: 4.6%	October 5th – December 4th 2018

Mr. Finn	7th Grade language arts	5 Years	Student Enrollment: 1,458 Minority: 20.1% Free/Reduced Lunch: 4.6%	October 16th – December 14th 2018

Sources: Colorado Department of Education SchoolView, and individual schools.

Ms. Douglas

Upon entering the school to visit Ms. Douglas, there are many smiles among the receptionist, the students, and the teachers in the hall. Ms. Douglas has the first classroom in the building; a short walk and turn at the corner and then arrive at her room. Although there is not a lot of color or decoration in the hallways, in Ms. Douglas' classroom, that changes. In the classroom it seems rather large, but that might be because the kindergarten-sized tables and chairs are so small. The room is buzzing but not loud, considering there are 15 kindergartners moving throughout the room. Ms. Douglas is welcoming, full of smiles and energy, willing to listen to students and adults alike with an attentive ear. The classroom is colorful, with signs posted labeling places, spaces, groups, and activities. The room appears to be set up for student self-sufficiency, with all supplies well-marked and easily accessible. The elementary school itself is located in a quiet neighborhood in the suburbs of Denver, and most of the students walk to and from school. Enrollment includes 369 children from pre-school through the fifth grade. The student population is 91.6% minority, with the majority of those second language learners; 84% also qualify for the free and reduced lunch program.

Figure 2 - Ms. Douglas's classroom

Figure 3 - Puppets and dolls for imaginative play

Ms. Douglas is a kindergarten teacher and an energetic educator who believes that learning should be fun. She grew up in a neighborhood that was bursting with children of all ages. As one of the older kids, she did a lot of babysitting and eventually started

summer enrichment groups where they would babysit, but also include fun activities and games for the kids to participate in as well. It was during these formative years that Ms. Douglas decided she wanted to be a teacher, which led her to earning her bachelor's degree in early childhood education. In the beginning of her career she taught nine years of preschool and then one year of first grade; this is her third year teaching kindergarten.

When asked what strengths she brings to the classroom, Ms. Douglas explains, "I'm pretty high energy in general, and I think that feeds into the kids being excited about learning and excited about new things." She elaborates that she tries to bring fun experiences into the classroom in order to get the students excited about being at school. She notes that her background in preschool education supports her in incorporating play and creativity into learning. She further explains that play provides opportunities for language development, which is important because they have a high number of second language learners in their school.

In describing herself, Ms. Douglas explained that she adores the outdoors, being in the mountains, and creating and planning events with family and friends. She also loves to travel and create scrapbooks of her adventures by organizing the details into categories to preserve her memory of that place and time. She refers to scrapbooking as "a way that I am pulling in my experiences into a creative manner." Although this is something she enjoys, she admits that it is time consuming, so she doesn't get to do it very often. Ms. Douglas explains that between teaching and the second job she works, she has little time to be as creative as she would like to be, in both her personal life and in the classroom.

Views on creativity. Ms. Douglas explained a lot of her experience with creativity came from her preschool education background. Using creativity in areas such as dramatic play, blocks, Legos, drawing, and writing, were all helpful in giving students new opportunities for language, which she felt was significant since she has many second language learners in her classroom. When asked about her beliefs about creativity, Ms. Douglas explained;

I think it can be artistically inclusive, I think it can be the way kids speak to each other. I think it is the setting of the classroom, making it a creativity environment where they feel like they can take risks and do new things…just giving kids time to have free play, which doesn't happen as much as I would like to see it, but I think your creativity comes out more when you give them time for blocks or time to come up with their own play, or to make their own story.

She also said that she wants her students to be excited about learning and to love coming to school. Ms. Douglas explained that she tries to incorporate a lot of fun activities including singing and movement throughout the school day. Additionally, she emphasized how important it was for the students feel comfortable in the classroom, so they would be more willing to take risks and try new things.

Ms. Douglas talked about her role in cultivating creativity, explaining that she felt the entire role was her responsibility because, as a teacher in the classroom, she was one of their main role models:

> As a teacher, it's our job to try and pull out pieces or add pieces that get [the students] excited about being here and let them be more creative instead of

mundane, going through the steps of this, reading and answering questions…but also having them make puppets and perform the story in order to give them a whole new understanding of how the story works and what they characters are doing. I feel like they remember it much better when we do things like that. I feel like that's a big part of what we have to do as teachers, make it exciting and fun to be here.

Alignment to framework.

Mini-c. Ms. Douglas spoke about how she enjoys having students write and tell stories because they relish in telling stories about themselves. "They talk a lot about themselves, it's all very egocentric. They want to tell their stories about themselves and what they do, and where they go, and who they know." During this time students get the opportunity to develop personally meaningful ideas in connection with what they are learning in class by writing stories about what they like, about their families, or about something wildly imaginative. Additionally, Ms. Douglas likes to provide occasions for students to use puppets or to act out stories so they can develop and present their interpretation and understanding of the stories they read and write. She also explains that choice is important: "Giving them choice…being able to choose something they become more engaged with what they are learning." By allowing her students to have personal input and investing personally meaningful concepts within their learning she feels they are more likely to engage and retain these new understandings within her classroom. "It

fosters more learning when there's creativity involved. Generally speaking, they hold onto things longer when they are doing more creative things."

During her interview, Ms. Douglas said that she felt it was very important to allow students to have "free play" which could include things like blocks, Legos, or dramatic play. She explained that by giving them that free time they were able to explore their own ideas and the ways they understand things. By providing these opportunities, "…it gives them a whole new understanding of how things work," she said. And although Ms. Douglas believes in these concepts, she admitted that she doesn't get to utilize them as often as she would like, because of the curriculum expectations and standards teachers must meet within the school year. She expressed the desire to provide a daily period of free play for her students, but unfortunately it was difficult to make happen.

In addition to play, Ms. Douglas explained how essential it is to build the students' confidence. She discussed how important it was to recognize that students are trying to contribute in class; whether right or wrong, this was not as important as helping students practice sharing their ideas and "gathering thoughts to put an answer together." She acknowledged that students bring unique ideas and experiences to the classroom and it is important to be recognizing those and be open to what they can offer:

> I'm able to encourage [uniqueness], especially through writing or if they want to count in a different way. The other day we were practicing counting and I was showing them how to organize their counting so they wouldn't miss count, and one of my kids was walking her fingers along the cubes and I pointed it out to the whole class. She was excited and proud of herself because she had done it a

different way that worked. Giving them that excitement about if they do come up with something different to go ahead and do so.

By allowing students to have personal input and to value their thought processes and their insights into what they are learning, Ms. Douglas feels she is building their confidence, their knowledge, their love for learning, and their creativity.

Little-c. Watching Ms. Douglas' class (the students moving around like little bees entering and leaving a hive) there seems to be sense of purpose as they move from one task to the next, completing activities, and sharing with work with peers. Additionally, these children appear to be self-sufficient as they gather the supplies they need and transition from one center to the next. When Ms. Douglas puts on her "Busy Bunny Ears" (a headband with bunny ears), this signals them to work independently and complete the current task. If students are stuck or have a question, they ask each other and support each other.

During literacy time in the morning Ms. Douglas takes turns meeting with individual students as well as small groups, focusing on specific skills while the other students work independently. Every 10–15 minutes the groups rotate and students move on to other tasks and activities. During these transitions and within groups, students appear to be motivated in completing their tasks, including coloring, drawing, reading books, writing letters, working on computers, and responding to auditory stories. Sometimes a student will sneak over to Ms. Douglas to show her the work they did; big smiles are exchanged and the other students continue with their stations.

It is important to note the delicate balance between teacher expectations and student drive. Students work within the classroom following specific and established expectations, but they also move freely about the room, getting what they need, finding their own nook for reading, and even creating a skit with some of the work they completed at one of the stations.

In the classroom it is apparent that imagination is at work. While creating pumpkins for activities about Halloween students were using bright colors, rainbow colors. One student decided to add a rainbow cat, while another drew pink vines around the pumpkins. The color possibilities were endless, with these choices occurring naturally to the students. A boy in the class picked up two pumpkins he had cut out of paper and started a little play with them interacting: "I'm daddy pumpkin. I'm baby pumpkin. What are you doing? It's OK, daa, daa, daa." He was performing for a couple of students at his table, and while it was not necessarily the task at hand, it brought on excitement and laughter. Imagination and self-expression were apparent.

Other examples of little-c at work in Ms. Douglas' class were the writing and drawing examples found on the wall and throughout the room. Ms. Douglas likes her students to identify and express their interpretation of stories. After reading through a story as a class, each child is given the opportunity to draw a picture about what he or she thought about the story and why. Although they can't write words and sentences yet, the students can express their understanding visually. Ms. Douglas explained that, through these types of self-expression, you can get "buy-in" from her students. "They are excited to learn, to share…they kind of get pulled in more." Additionally, Ms. Douglas noted that

as the year progresses, students have the opportunity to engage in additional activities where they get to express their creativity and understanding. “As students expand their learning and are in different places as learners, we include more things like reader’s theater and performing for peers.”

On Mondays, you will find the students gathered around for “Turtle Time.” This is a special time when students share stories about what happened over the weekend or ideas they want to share with the class. Ms. Douglas has a turtle puppet that gets passed around to each of the students for a turn to talk while the others listen to their adventures. She explained, “It’s a special time because everybody gets a chance, so it’s their time.” During this “Turtle Time” you might hear a story hyperbolized into something much greater than what actually happened, but it’s the student’s chance to tell the story as they felt it happened. Ms. Douglas revealed that sometimes imaginations run wild and self-expression becomes the epitome of the student-focused story time.

CRISPA. Connections, risk-taking, imagination, sensory experiences, perceptivity, and active engagement present themselves in a variety of ways throughout Ms. Douglas’ classroom. To begin, connections are apparent in the relationships the students have with her and one another. Ms. Douglas knows her students very well and is able to make connections to concepts they are learning in their own lives. During the school year she invites families to come in and talk about themselves and their culture:

> I think kids start to realize they speak the same language or a different language from someone else, and they kind of make connections through language, or what families look like, how they are the same or different.

Ms. Douglas also noted, “Kids are connecting because it’s their first experience with school, so they are all going through this new experience together and they talk about what they’re doing and what’s new and what’s not.” She also acknowledges that it’s important to build strong bonds between the students. In order to support relationships and connections, Ms. Douglas provides each student table with a pet fish; the 3-4 children assigned to the table assume responsibility for its care. She explains it builds a lot of excitement and responsibility, but can also be difficult. “This has gone really poorly and really great in different years,” she said, “so you never know exactly how it’s going to turn out.”

Risk-taking, Ms. Douglas explained, is happening all the time in kindergarten. “Every time they come up to answer a question or raise their hand, they do a lot of risk-taking, just because it is all new experiences.” She adds, “I think the setting of the classroom [helps], making it a creative environment where they feel they can take risks and do new things.” Ms. Douglas invites her students to come up with alternative ways of completing tasks in the classroom, for example, counting the bears stepping with their fingers or hopping on mats to practice skip counting. Ms. Douglas creates an environment that supports risk-taking: her students are constantly raising their hands to share their ideas, unafraid to give input or to think differently from her or each other. Mistakes, when they occur, are just part of the learning process.

Ms. Douglas highlights the importance of imagination, and how easily it was incorporated in pre-school. But by kindergarten, Ms. Douglas felt like dedicating time for

imaginative discovery is more difficult. She explains that students had more choice and freedom to follow their intuition for doing and learning in the pre-school setting:

> I would love to do more…I feel like that's the biggest creativity outlet for these kids at this age, and it helps build their language and learn how to interact with each other. But right now we spend so much time doing work.

She explained that there is a lot of pressure for the students to be on grade level, and she notes, "…which I want for my students too, but I want them to be excited about school, not just going through the motions of school." Although Ms. Douglas doesn't feel that she has enough in-class time to devote to imagination and discovery, imaginative exploration persists through students' stories. Their writing, drawing, and creating all display strong aptitude for make-believe. Her students use wild and flamboyant colors and vivid combinations of live and inanimate objects: for example, drawings of bears and sharks playing alongside each other, and trains with bears riding on top, etc. Their minds seem free and don't conform to what is "correct" or "logical," and they seem to relish inventing and displaying their own interpretations of how they see the world around them.

Sensory engagement is another aspect of CRISPA that occurs in a variety of ways throughout Ms. Douglas' classroom. "I think the sensory things are big for engagement, anything that includes hands-on and they are more apt to learn from it." Ms. Douglas explains that she feels fine motor ability is important in kindergarten, so she gives her students ample opportunity to string beads and work with play dough. She also uses

music and dancing throughout the day to engage students' senses, and provides alternative seating (such as ball chairs or squishy cushions) to use during class. "I think the biggest sensory time is going outside and being able to play and run outside," she adds. Ms. Douglas also incorporates activities such as writing letters in salt or creating letters out of play dough to help students learn how to write. In her classroom, there is often music playing in the background or essential oils being diffused.

When discussing perceptivity in the classroom with Ms. Douglas, she explains that it isn't a focus this early in the year because her students are not developmentally ready:

> Right now everything is so basic. You're like, "Can you tell me about this bug?" And their response is, "It's a bug." What else can you tell me? You have to kind of push them, how many legs does have? What color is it?

She clarified that right now her students are very literal, but as the year progresses she works with them to be more observant of detail, and elaborate more as they explain ideas in their writing.

In terms of active engagement, Ms. Douglas identifies it as very important: "I think that active engagement is huge in keeping them interested and with you while you're teaching." She explains that physical activity is necessary in kindergarten, too, because, "kindergartners can't sit longer than five minutes". "I often get them moving to tell a story…to move around the room, hopping up and down to count down and then blast off, or moving around like an animal." When in Ms. Douglas' room, there tends to be a lot of motion throughout the day: students moving from place to place, engaging in

activities such as reading, writing, using the computer, listening to an audio book and then writing or creating a picture about that story.

Ms. Douglas explains that she tries to have accountability for the work they are doing, so she has established ways for them to show the work they have completed. By using accountability, she can ensure that students are engaged as well as self-sufficient. Finally, Ms. Douglas identifies choice as an important aspect of active engagement. Given the freedom of choice and the chance to work on their own timeline, students will be more engaged, have better focus on a goal or task, and "take more pride in the work they are doing."

Ms. Thatcher

Ms. Thatcher is a third-grade teacher at an intermediate school that includes third through sixth grades. Her school sits nestled in the foothills of the Rocky Mountains and although the community itself is small, the area it covers is big enough that some students ride the bus to school while others are close enough to walk. Upon entering the building it seems large with its tall vaulted ceilings and two-story floor plan. Throughout the hallways, student art work that demands attention. The building is carpeted throughout, muting the footsteps of everyone wandering up and down the hallways.

This school is part of the International Baccalaureate (IB) program, designed to educate students through inquiry into becoming culturally sensitive and aware. According to its mission, the IB program aims to develop "inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect." (IBorganization, n.d.) As a part of their learner profile,

students are expected to strive to be caring, principled, balanced, reflective, inquirers, open-minded, risk-takers, communicators, knowledgeable, and thinkers. Through this program, the school creates a written curriculum called the Program of Inquiry (POI) (IBorganization, n.d.). The curriculum is organized into six transdisciplinary themes that include:

- Who we are
- Where we are in place and time
- How we express ourselves
- How the world works
- How we organize ourselves
- Sharing the planet

These themes are used throughout the school grades K-6 and were evident in Ms. Thatcher's classroom curriculum.

In Ms. Thatcher's classroom there is a soft glow from the lamps in her room as well as the natural sunlight spilling in from the windows. Around the room are student desks and chairs as well as beach chairs, a tipi, a couch, and a variety of chairs throughout the room.

Ms. Thatcher has been teaching in a variety of settings for 14 years, including as a childbirth educator and lactation specialist. Although she always knew she wanted to be a classroom teacher, getting there took longer than she anticipated. She started her degree in elementary education right after high school, but then her life took a different turn. In 2010, she returned to school, earning her teaching degree with a master's degree in

curriculum and instruction. Upon graduating, she taught second grade for two years, then switched to third grade, where she's been ever since.

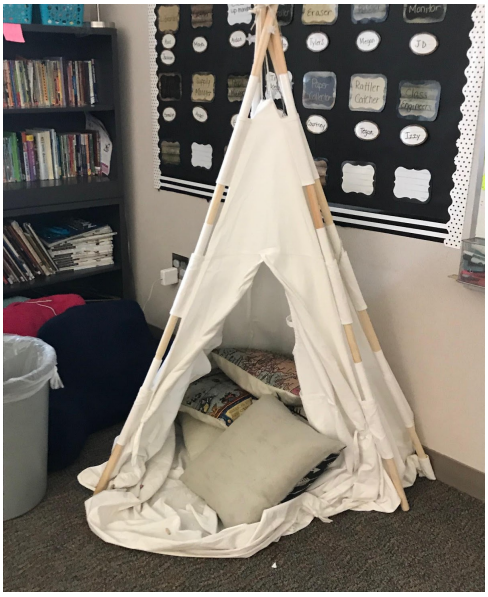

Figure 4 - reading tent

Figure 5 - Couch corner

When asked what strengths she brings to the classroom Ms. Thatcher is quick to answer:

> Creativity! Creativity and honoring different learning styles, and different ways of showing learning, which is what I think is the creativity piece because creativity can be lots of different things.

In addition to creativity. Ms. Thatcher identified that building relationships is another important strength she has in classroom. She explained that building relationships is important because in those relationships you build a support system. "I tend to just intuitively know where people are, especially little ones." She also values "helping kids find their esteem and then what are their talents, and how can they use those to enjoy learning." Ms. Thatcher discussed how important it was to know her students and help them use their strengths for learning. This was clear to see throughout her interviews, her journal, and in-classroom observations.

In describing herself, Ms. Thatcher identified her love for writing, and that she is a creative thinker, a conceptual thinker. She enjoys conjuring up grandiose ideas, but admits she struggles with the actual implementation:

> I want it to look so much bigger than what I actually physically can do on my own, so I love to work with others because they have the gifts to actually carry out the execution of what I'm thinking.

Ms. Thatcher explained that she feels she thinks differently from everyone and always has. She described this as, "I'm always having a kind of fight in my brain because

I feel like there are so many what if's, and if you went this way or if you go that way, there's just so many paths!" She elaborated by saying she is not very traditional in any sense of the word, except for maybe her appearance: "I look pretty normal." She also stated that she loves to learn. and continues to learn and grow all the time. She refers to this as a "growth mind-set." Additionally, she loves relationships with all sorts of people, and that community is very important to her because she loves the relationships and the emotional connections to learning and growing.

Views on creativity. When discussing her beliefs about creativity Ms. Thatcher stated,

> I think [creativity] can be how people's thinking happens, just seeing things differently and showing things differently and being open to those differences…it can look like a finished project or it can look like a process…it's about accessing ideas and finding a way to share that learning with somebody else."

Ms. Thatcher also described creativity in her classroom as "just allowing opportunities and encouraging kids to use their own ideas and show their understanding; also using some of their strengths to encourage them to find creativity." She thinks that creativity is more idea-based, and believes that individual students have unique skills to put that on the paper in different ways. She encourages creativity in the classroom by "making sure that there is a place for [creativity] to occur and encouraging opportunities…it involves a lot of risk-taking and some failure too." Ms. Thatcher makes a point to make connections between different skills and subjects, demonstrating how skills work together in the real

world. For example, using math skills to design a dog kennel. “I like project-based learning for that reason…giving kids opportunities to tie things together.”

Ms. Thatcher described her role in cultivating creativity as “providing opportunities.” Additionally, she models creativity for her students by thinking outside of the box and remaining flexible and open-minded. She also noted that she had to give her students choices to show their learning: “If everything is too structured, you can also take creativity away.” Ms. Thatcher viewed her role as “encouraging and being excited when they have a new idea. Be open to it.” She also noted the importance of guiding the students through their creative process, to fill in gaps and holes they might have as they work through a project. In addition, she pointed out that it is important to have students reflect so they can learn from their process; she considers mistakes and even failure as a learning opportunity.

Alignment to framework.

Mini-c. Through the design of Ms. Thatcher’s classroom, students have the ability and the choice to include self-expression and personally meaningful ideas in their learning. “I like to be really flexible in here. I’m very flexible in how you show me [your learning] as long as you can prove that it is connected to what we’re doing.” Ms. Thatcher also likes her students to do a lot of reflecting during and after the process of learning. “It helps me to see where they are at and then I use that to inform my instruction.” She noted that this could include giving them either more support or more freedom in their learning path so “they can take their learning deeper.”

One way Ms. Thatcher makes sure students have the opportunity to pursue their interests is through the "Genius Hour":

> I let kids choose what they want to learn as long as it follows the process, so this is not something we do every day, but Genius Hour is when you get to become a genius or an expert about anything you want. But there is a process that includes (1) choosing a topic; (2) choosing lines of inquiry; (3) synthesize your thinking, you might know a little bit about something and do some reading, and now come to a new understanding; (4) questioning; (5) research; (6) share. I thinking sharing is huge, because when presenting or teaching others it's that self-actualization where it actually clicks.

In addition to encouraging students to follow their own interests, Ms. Thatcher likes to provide novel experiences within the classroom that build excitement and curiosity. For example, in order to begin new reading groups for her classroom, she decided to transform the classroom into a café:

> I used red-and-white checkered tables, there were dishes, the silver ones, for the books, and then we had a menu and placemats and flowers. I had little LED fake candles for the kids and before the students could enter the room they had to check with me for their reservation. I made sure not to break character (as the hostess). Each table had at least five copies of the same book. For the menu they had to look over the cover and reflect what they think the book might be about. Then they read in the book for a few minutes and the menu had questions like,

"Did the author pull you into this book?" and "Would you want to read this book?" After visiting all the tables, students did a reflection on a napkin that asked them to rank the books in the order of which ones they wanted read, most to least. Using this reflection piece, I created our first novel groups of the year.

Students were given the opportunity to express their thoughts and interpretations about the books through their reflections. Ms. Thatcher explained that, by engaging the students in this novel experience and valuing what they had to say about the books and which ones they wanted to read, she was able to get their buy-in and their engagement. She also noted that the students loved the experience of going to a café to find their book and having the opportunity to really get familiar with a book before choosing which book to read.

As mentioned earlier, Ms. Thatcher teaches at an IB school (IBorganization, n.d.), and the theme students had been working on was "how we express ourselves?" and the central idea was "literature may express beliefs, values, and culture." During this unit, the class read traditional fairy/folk tales, myths, and legends. After learning about the different forms, students were then asked to look for historical detail in the different stories. Students had the opportunity to decide which form (fairy tale, folk tale, legend, or myth) they wanted to pursue, and then demonstrate their learning. At the beginning of each unit, Ms. Thatcher works with her students to put their ideas into words, so the unit is clear and has meaning to them. Additionally, she keeps an ongoing list of their questions to discuss throughout the unit.

Little-c. Ms. Thatcher believes in being flexible and giving students choice in how they demonstrate their learning, and believes it is important to help students learn how to problem-solve in different contexts. She leads morning in-class meetings where they discuss how things are going and what they might need to work on for the day/week. In these meetings, she noted how they work on problem-solving for a lot of social and emotional learning. Ms. Thatcher explains, "People do not always know how to deal with regular conflict and then everyday conflicts can be blown out of proportion," so they work on creative problem-solving together. Ms. Thatcher introduces different problem solving skills each month, which helps her students learn how to identify a problem, some possible solutions, and then how to apply the chosen solution. She noted this can be challenging because sometimes her students don't have everything they need to solve a problem, such as emotional maturity. She reiterated, "they are only third graders." To help students problem-solve within academics, she explains it's in important to "model it, show it, and give lots of practice before they are expected to be able to do it on their own."

In order to support students in coming up with creative ways of solving problems in math, Ms. Thatcher uses a method called "Show it Three Ways," asking her students to think of three different ways they could solve a math problem, so they can be creative in both their approaches and demonstrations of understanding. She explains that although the answer is often the same, there are often a multitude of ways to arrive there. Students share their strategies with each other, and some share with the entire class. She explained that by building a community of trust within the classroom, students are more willing to

take risks and try different approaches that may or may not work, "but that is OK because mistakes are learning opportunities too."

To help students build their understanding of the theme "Citizenship," Ms. Thatcher designed a unit around being "Agents of Change," teaching the students how to help make change and make their voice heard, at least at a local level. During this unit, they looked at problems within their school, their community, and the world, and looked at the solutions implemented to solve those problems. Students then had to choose a problem and come up with an action plan to solve it. Some of her students worked on problems at the school (such as noise in the library) while others focused on the community; one group chose to address the poaching of small animals in the neighborhoods. Students had to identify the problem, ask themselves "Who does this effect?" and "Is there anything we can do?" Through this unit, Ms. Thatcher observed her students being creative and insightful in their solutions. Some groups came up with ideas for building awareness of the problems and then helping to educate people about the effects. For example, the students who did the project on poaching worked on educating people regarding the effects of disrupting an ecosystem by killing off its smaller animals.

Ms. Thatcher explains that she likes to use Project Based Learning in her classroom because she feels "it's a higher level of understanding." She elaborates,

> If I were to just give a math problem or something about area and perimeter or I was just to give persuasive writing prompts, and then mapping…and if I taught those in isolation maybe the kids could master that part of the problem, but they

> wouldn't be able to connect it to other problems. In project based learning you're providing an opportunity for those connections to be made and to apply those skills which is a higher level of learning…understanding the skills in a new way and actually putting it in a real-world context.

For example, Ms. Thatcher described one of the units she did recently, on area and perimeter; to make the project "worthwhile" she decided to make it into a city-building project. She guided the students by helping them think "what do cities have? The social studies component piece was how do people depend on their environment, or adapt to their environment, or modify their environment?" From there, students had to choose and research a location, and then think about concepts like, what clothes would the residents wear, what housing could this include, etc. Using their math skills, students mapped the city using area, perimeter and mapping skills. They were encouraged to use creativity in designing this city, but also make it plausible for the real world. For the final piece students wrote a reflection on their choices, where they built their city and why, and then a persuasive piece trying to get people to visit their city. "This is how I take a lot of content areas and put it all into one big application project," Ms. Thatcher explained, "to show how those skills work together in a real-world context." She added that, by providing all of these content areas together, her students can utilize both their creative mindset and their growth mindset to complete their work.

CRISPA. Throughout her interviews and in her lessons, Ms. Thatcher is clear the first piece of CRISPA, connections, are essential. To begin, she discussed the

relationships in the classroom and how important it is to build strong relationships with each of the students, but also within the classroom to build a community. Ms. Thatcher explained that it was important to her to make sure that all her students feel like the classroom is a good environment. Ms. Thatcher tries to accomplish this task by building relationships and trying to be a good support system, helping kids find their esteem and then find what their talents are, and how they can use those to enjoy learning.

To accomplish this task is not easy or quick. "It takes a lot of time to build a good culture and community, and also a place where you can risk failure," she explains, "and know that people are not going to make fun of you." She also noted that building these relationships helps students with their collaborations on projects and in overall communication.

In addition to making relationship connections, Ms. Thatcher believes it is important to make connections between what students are learning and their own interests, their community, and the real world. She likes to use project based learning, so bringing together content in order for students to understand the relationship between their different skills. She explains that, "This helps them understand real-world application: you don't just do math or social studies; you can have a job that combines all sorts of skills."

The second part of CRISPA, risk-taking, is a skill that Ms. Thatcher thinks is important and connects to creativity on many levels. As she described her philosophy with creativity, she explained the need for a lot of opportunities and that "I think that involves a lot of risk-taking and failure too." That being said, she added that sometimes

her most creative students can feel crippled by too many choices and wanted more structure. She understands that, but really wants them to grow and build their confidence, so she works hard to create a "growth mindset" so that her students will feel comfortable taking risks. "I try to get them to feel comfortable with trying something crazy, not knowing how it is going to go, and helping them be OK with failure." Additionally, Ms. Thatcher explains that it is important to model and own her mistakes. "We have lots of conversations about this; I have owned my own mistakes and showed them, 'Oh, I did that backwards, but I learned so much from doing it that way.'" In her classroom one of the students noted, "I'm totally failing at this!" They were working on a math activity where they had a hundred dollars to spend buying books. The student was struggling with subtracting the numbers and using the decimal, but when she noted she was failing she didn't say in a disparate way, but rather just matter of fact. It appeared that she recognized struggle and taking risks was part of the learning process.

Ms. Thatcher mentioned how, over time, students are willing to take more risks, with the exception being grades. She noted that students generally want good grades and don't want to risk any sort of failure when it comes to being graded. As discussed earlier, when students have too much choice it can be overwhelming, because they want to know exactly what they need to do to get the best grade.

When incorporating imagination (CRISPA), Ms. Thatcher shared how she uses visualization within her classroom to help her students picture things. Sometimes she has them close their eyes during a reading or writing piece and visualize what they believe it would be like. To help them push their thinking and imagination she will also ask them

questions: “What if something changed? What could change? And what would it look like if it changed?” She explained that she likes to have her students think from different perspectives. Sometimes she uses “twisted” fairy tales (told from different perspectives) and challenges them to create something similar in their own writing. During their writing time, students were using imagination to come up with fantastical animals and people who could do extraordinary things. One student’s story was about a scientist with extraordinary powers; another student titled his story, “How the Wolves Changed the Rivers.”

Sensory engagement (CRISPA) can include using senses such as sound, touch, movement or visuals to enhance learning, but sensory engagement also can include being aware of sensory disorders that students may have in the classroom. Two students in Ms. Thatcher’s class had recently been diagnosed with sensory processing disorder, and therefore were very sensitive about certain sounds, actions, or even the intensity of the classroom. As a result, she worked hard to support those students and build a classroom that gave them a variety of ways to focus. Ms. Thatcher also has headphones on hand to help students block out stimuli, and she uses whisper voices or conversation bubbles to help students regulate the volume of their speaking. She also had calming jars—jars containing water plus glitter or small beads, which float and then settle when the jar is shaken, creating a soothing effect—in her classroom that students could use for a variety of reasons. “The calming jars can be used to help them refocus. They might shake it up and wait for everything to settle and then go back to try and solve a problem.” Although these jars are not necessarily the sensory engagement focused on for this study, it is

important to include and consider them when you have students with special needs which demand a greater awareness of sensory concepts.

In addition to accommodating and being aware of sensory-sensitive students, Ms. Thatcher also likes to engage all her students in other sensory experiences. For example, the café experience that she created around choosing books for book club, or using a variety of math manipulates to solve math problems. Additionally, you might find students working on a project such as building a pumpkin catapult during the fall. Ms. Thatcher said she has even conducted some cooking shows in her classroom so the students could measure out ingredients, add them up, mix them up, and make something new. When describing sensory engagement in her classroom, she explained that

> I have a lot of structures in place because I need it even for me. We have a really successful environment for all types of learners, not generally because I love putting all those structures in place, but I know that we need those things in order to be able to do more risk-taking and louder collaborative type of things. You have to have the structures in place or else it will be chaos and it won't work. So we have controlled chaos.

Ms. Thatcher reiterated that she really likes to use project based learning in her teaching, showing her students things from different perspectives. "I'm told that we do a lot of deeper level of things in here, I give them lots of ways of looking at something and then open ended opportunities to take concepts deeper." An example she shared was the children's story "Stone Fox." She explained that the students didn't like the ending, so

she had them first discuss why the author might have ended the story that way, and then think about how they would change the ending and why. “This is a fictional story, you might think it is sad, and it is something that could really happen, but you can use your creativity and change that!” When discussing her city-building project, she talked about how important it was to look at all the working parts and be aware of how much more there is to planning and designing, why things are the way they are, and how that affects everything around it, not just, “let’s put a city here.” She appreciates how the IB program naturally supports those lines of inquiry, diving deeper into her curriculum and relating it to her students and their world at large, and how they might influence that world.

Ms. Thatcher emphasizes the importance of engaging students in their learning. In order to accomplish active engagement, she designed a student-centered classroom. Ms. Thatcher likes for students to have buy-in, and have a say in what they’re learning and how they demonstrate their learning. Students are also involved in decisions like how to set up the classroom, especially to meet a specific instructional need. Ms. Thatcher also works with the students to help them define and practice concepts such as, “What does it mean to be an active listener?” or “How can you be an active participant?” To help support this type of learning and give the students practice, she does a lot of group work. She stresses that by giving these opportunities for discourse, the students are able to discuss their learning in more ways, and they often learn more from each other. “Some kids need that different perspective and different way of learning things, so I make sure to set up my room so the students can have that discourse.” In addition, Ms. Thatcher

regularly assigns reflective pieces, to ensure that each student is accountable and constantly engaged in their learning.

During work time in the classroom some students are working independently while others are working together. There is a definite buzz in the room as students exchange ideas, support each other, and discuss solutions. It can be a bit loud at time, but as Ms. Thatcher noted, “It’s organized chaos.”

Ms. Harper

Ms. Harper is a fifth-grade teacher in a sub-urban school in Denver, Colorado. Inside the building, Ms. Harper’s classroom is down a long hallway with white floors and ceilings. There is some student work posted on the walls, and at one point each of the classroom doors was decorated with a Halloween theme. Student occasionally wander down the hall and greet you with a big smile. The school itself is primarily second language learners who live close enough to walk to school.

In Ms. Harper’s classroom dim lights are on, windows blinds are down, and the top of the windows are covered by an unusual turquoise paper that looks like watercolors; sunlight filters through, creating a cool, soft lighting effect. Often music is playing in the classroom, too (Ms. Harper explained that the type of music playing depends on the task at hand). Her students are quiet and often working individually or with a partner while Ms. Harper works with another group at the back table. Around the room there are a variety of charts showing current assignments including different writing ideas, ways to work a ratio problem, vocabulary, and other concepts, such as “being respectful” and “mistakes are learning opportunities.”

Ms. Harper earned her bachelor's degree in elementary education with a minor in math, followed by a master's degree in curriculum and instruction. When asked what led her to become a teacher she can't recall exactly why, but she just knew that she always wanted to be one:

> I wanted to be a teacher from first grade actually. I did veer from teaching for a couple of years, but [that] wasn't a good idea. I felt like I was really natural at [teaching], I really enjoy seeing the light in the students…

This is Ms. Harper's fourth year in the classroom, and her second year teaching the fifth grade.

When asked to describe her strengths as a teacher, she states that she has good classroom management and strong relationships with her students. She also noted that although she has a minor in math she felt that she was better at teaching reading than math. Additionally, she explains that she is extremely tech savvy and loves to incorporate new technology into her classroom. "I get very creative with how we can use technology in the classroom. That's probably my biggest strength…as a creative teacher." She also explained that she has to use creativity to adapt the required curriculums to appropriate levels for her students.

Views on creativity. "I think creativity looks like a lot of different things," Ms. Harper says. "It can include how to put things together; creativity is finding new ways to accomplish the same task in different ways." She stated that she enjoys trying to find new ways to explain or show her students something new, especially when they are struggling to understand a concept. "I love listening to their ideas because they bring a whole

different perspective to the table, and I think it sparks creativity in each of them, and then in me as well." Ms. Harper explained that creativity in the classroom requires a teacher to know the students and understand their different learning styles, and then use that to the student's advantage.

In describing her role in cultivating creativity in the classroom Ms. Harper explained:

> I think my role is to model creativity, model the risk-taking that it requires, and having them then do it on their own, backing off so the students are then more responsible for that learning through creativity.

She explains that it demands some vulnerability for her too, because she must trust that they are going to take on that learning. She notes the importance of creating a classroom environment that allows and even encourages risk-taking and that acknowledges mistakes as part of the learning process. At one point, she remarked that the kids have been told by other teachers in the past, "no that's wrong, that's wrong, that's wrong" for so long they are afraid to try:

> I've talked significantly about how mistakes are not mistakes, they are learning opportunities, and that's kind of a creative way to look at it…I want to encourage [my students] that you got it wrong, but who cares? Let's figure out how to fix it…you're not right, but that's OK."

Ms. Harper also noted that creativity includes being flexible and finding new ways to do things within her classroom to keep students engaged.

Alignment to framework.

Mini-c. Ms. Harper likes providing new experiences for her students in a variety of ways. One way that she challenges them is through technology. Ms. Harper explained that she is technologically savvy and likes to use tech in her classroom to help the students explore and learn. "Sometimes when problems arise when working with technology, we work through them together. It becomes a new learning experience in and of itself." Ms. Harper explained that her students don't have a lot of access to technology at home, so at school they like to explore and figure out things on the classroom computers.

In addition to using technology, Ms. Harper prefers to use examples that are relevant to the children's lives when exploring topics in the classroom. For example, her class recently took a trip to the local reservoir to go fishing. This was the first time some of them had ever been to the reservoir, so that in and of itself was an exciting experience. Before and after, Ms. Harper drew the students in by talking about the trip, what they were doing, what they would learn, what they might want to know. "We talk a lot about things we have done or that we do together and then they come back using that. OK, what did we learn from this? It's pertinent to them so it means something." Ms. Harper explained that she likes to use the students' neighborhood, ideas, and concepts in her classroom as much as possible.

Another aspect of learning that Ms. Harper has been working on is putting the teaching in hands of the students. She admits this is hard, but she likes to give them an opportunity to occasionally take control. She noticed when she turned over simple things

like vocabulary, her students started using their own language to discuss it. “I realized that some of the vocabulary they were using were not words I would have chosen, but it worked for them.” She also noticed that they did a good job of teaching each other and working to introduce words and concepts in ways that made sense to them. “They did a great job and maintained that engagement, which was awesome!” Ms. Harper also noted that by giving the students more choice and freedom in how they approached their learning, they enjoyed it more and also began to dive deeper into their work and understanding. Using a “menu” students are able to choose which activities they do and how they can demonstrate their learning (see pictures below). Ms. Harper explained, “I think it’s a step in the right direction for them growing up and moving more into that self-exploration.”

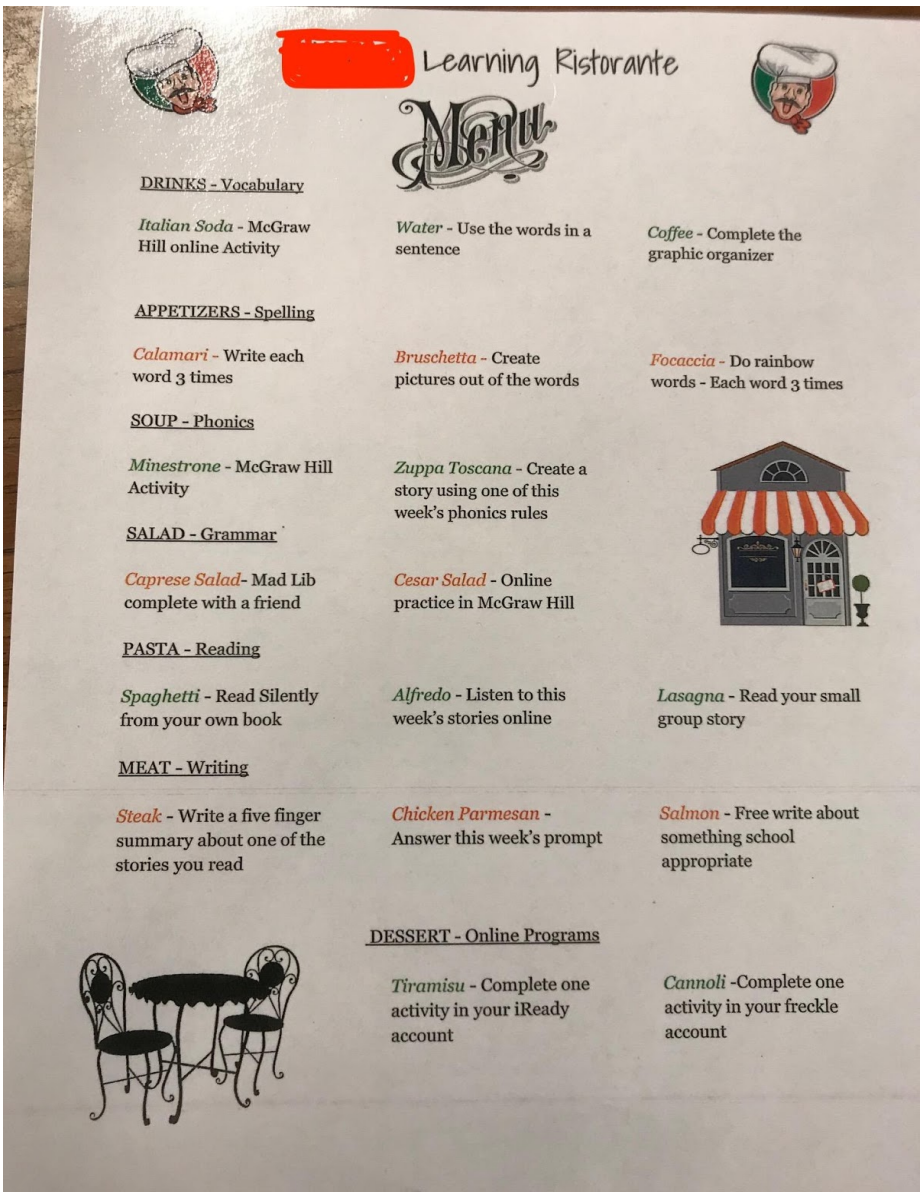

Figure 6 - Menu choice

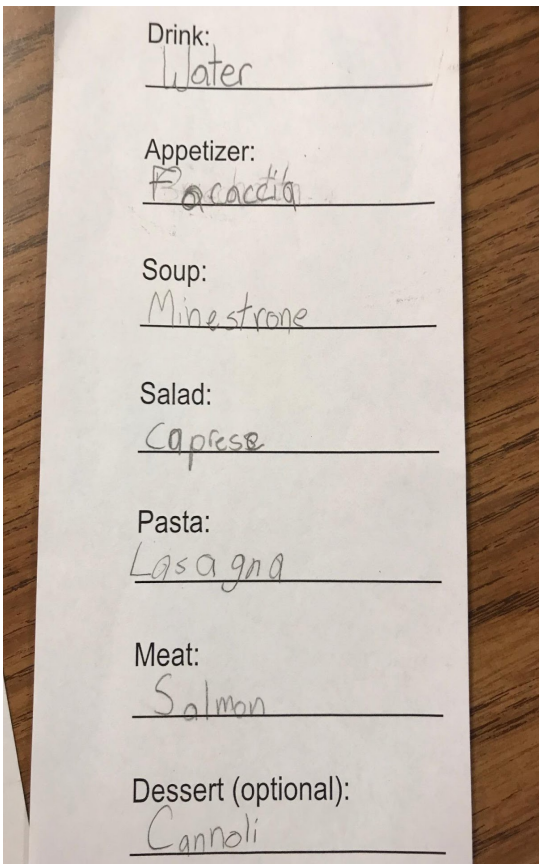

Figure 7 - Student menu response

Little c. To encourage students to use creativity in everyday practices Ms. Harper works to mentor them; she also models her own creativity: "I want them to see the value in being creative and thinking outside of the box." In order to accomplish this, Ms. Harper often changes direction in a lesson if it doesn't make sense or when students are not following along. "I think creativity is being quick on your feet, trying again and reset." She explained that if teachers are not creative in the classroom they will get stuck; teachers have to be willing to change and look at things differently. To help students with their everyday creativity Ms. Harper likes to ask the students, "But what if?" She said

that with this question she pushes their thinking and sometimes they change their perspective to understand learning in a different way.

Additionally, Ms. Harper likes to help build confidence in her students by offering opportunities to find out answers to perplexing questions. Instead of students coming to her for the answers, she will challenge them to "figure it out," so they have to be creative in the ways they find the information they need. She explains that it is important for them to be self-sufficient and to learn how to investigate a problem and obtain the necessary information to address the problem and find a solution. Ms. Harper also believes in having multiple solutions and discussing the best ways to solve problems. In her class students will sometimes work independently or with a partner to solve math problems, and then they will all come together as a group and discuss the various strategies they used:

> I try to find ways to include the kids in the teaching, when they learn something new or a different way of doing something I bring them up to the board to show that, and have more of a discussion about it.

She explained that, even when they make mistakes, they work through them as a class.

CRISPA. When you discuss connections with Ms. Harper, she explains that connections (CRISPA) are an important part of her classroom culture. She believes in making connections with the students, connecting students with each other, and connecting the curriculum and their lives, making it relevant. "I like to make connections with my kids, I think those relationships are important." Ms. Harper makes her students a priority by inviting them in eat lunch with her, or by going out during recess to spend

time with them. Within her classroom, she uses a community circle to help students learn about each other at the beginning of the year and to have conversations about topics that are sometimes difficult as the year progresses. Additionally, Ms. Harper uses accountability buddies within her classroom, which are student pairs that support each other in the classroom. About once a month students write a note to their accountability buddy telling them something positive they noticed about them within the classroom. She explained that she expects them to genuine and really put some thought into the notes.

> I had the students do a note right before break and after they exchanged notes I saw one of my kids crying. I went over to talk with him and found out he was crying because his friend had told him something so positive and so helpful, he felt he had done an amazing job.

Ms. Harper tries to build a culture in her classroom where students are unafraid of taking risks. "I've talked significantly about how mistakes are not mistakes, they're learning opportunities." She explains when they talk about what thinking looks like in the classroom that risk-taking (CRISPA) is one of the first concepts they address. This is illustrated in a chart that she created with the students to help remind them what thinking looks like in their class. "I also try to model risk-taking as much as I can, like, 'Hey, I'm going to try something new today so I'm not sure how it is going to turn out, let's see what happens." She explains that she encourages her students to take risks and offer suggestions, which can be hard for them because since they often feel compelled to get the right answer. "I think they strive for that correct answer as opposed to putting

themselves out there," she said, adding that "I also will ask them, how have you been a risk-taker today in your learning and thinking?"

Although Ms. Harper works to support the students in taking risks, when she answered this question in her interview it was only September. She noted that it was early in the year and students were not comfortable taking many risks at this point, but it was something they would work on together throughout the school year.

When Ms. Harper started discussing imagination (CRISPA), she explained, "Imagination is kind of lacking anymore, and I think it's because we kind of kicked it out of the kids." She elaborated by stating:

> I would like to believe that I'm a teacher who wants them and allows them to use their imagination, but I do think sometimes we get stuck in what we have to accomplish, rather than what could they do with what we've accomplished. So, I would say this is an area that's probably an area of opportunity for me as well. Reminding them that they can be creative outside of what we're doing: "What else can you do with that?"

Ms. Harper also talked about some lessons she had taught where she gave very little instruction on how to go about a project, but just let them know what she needed in the end: "You guys just figure it out." She noted how the students were discombobulated; they weren't even sure how to begin. She explained that more often than not, the students want step-by-step instruction and when they don't get that, "it is intimidating". "Learning opportunities like this help me too, it gives me ideas of how to get their imagination and

creativity back!" Ms. Harper described how she felt "sad" that over the years teachers and schools have killed students' imaginations, or at least don't seem to value it.

On the subject of sensory engagement (CRISPA), Ms. Harper says this is not something she feels she does very well within the classroom. She explained that she doesn't like to have big messes in her classroom, so when it came to projects with paints and other materials that could get all over the place, these were not activities she enjoyed or planned for very often. But what Ms. Harper did have in her room was very soft lighting, mostly from lamps and a few overhead lights. Covering the windows were colored papers that let light trickle in softly. Additionally, Ms. Harper often played music for the kids while they were working, sometimes jazz, Italian, or modern hits depending on what the students were working on in the class.

To help students with their letter–sound connection, Ms. Harper did an activity with a small group that included using dots to cover letter sounds and demonstrate phonemic awareness. During this activity, Ms. Harper would have the students write down a word such as "beautiful" on their wipe boards. Next, she would ask the students to put a little round paper dot on a specific sound such as "t." After practicing the different sounds within the word, they would put the sounds together to sound out the entire word, using the dot under each letter sound to support the idea of blending. Ms. Harper also said that in math she uses a lot of manipulatives to help students get that hands-on work and to help solidify the math concepts. Working with the manipulatives made the concepts more concrete for their understanding.

When asked Ms. Harper about perceptivity (CRISPA) she is quick to divulge, “It is definitely on my mind, but it’s not prevalent or used in my classroom like it should be.” Ms. Harper explained that although she appreciates perceptivity, she identifies that she doesn’t have the time to devote to it because she has too much curriculum material to cover with the students. At one point, she mentioned that many of them were not on grade level, so she was covering material from several grades to try and help her students catch up. She did say, “I know that if I used it, it could actually improve their levels and learning. But, I also know we need to move fast.”

According to Ms. Harper, active engagement is something she finds essential to student learning and has actually set it as a professional goal this year: “I try to keep them as actively engaged as possible.” Since the beginning of the school year she has been implementing a variety of engagement strategies to support students’ enthusiasm about learning. “I like to get them up and moving, engaging in a game, or talking about ideas they have in common…” Through the engagement activities she felt the students were more focused.

Ms. Harper also uses choice within her classroom to help the students show their work in ways that they prefer. One example is the “menu” she uses for language arts. The students can choose the activities that they want to do. Additionally, during different work times students have the choice to work on their own, with a partner, or sometimes in small groups. When you walk around the room during these work times, students are talking and discussing ideas, showing each other strategies, and making suggestions. It appears they are really focused on the task or activity at hand.

One day during math period in Ms. Harper's class, students were working on long division with partial quotients. In order to solve these problems Ms. Harper had provided an array of strategies for the students to use; some chose ratio tables, others used partial quotients, and some others tried area models. Each student was engaged diligently in their work, and after about five minutes Ms. Harper had the students share their strategies and their answers with each other. Students were engaged in conversations about different possibilities, focused and intentional with problem solving, and at times even teaching each other.

During literacy, students sometimes work within the whole class, sometimes in small groups, and sometimes on their own. One particular day in November Ms. Harper had a small group of students in the back of the room working with her on how to build and break down words with the letter sounds. Each student at the table had a mat in front of them, and at first they were using dots to show what sounds they were hearing. They would move the dot around to different letters to show the sound. After working with sounds, the students then used markers to write the sounds they were hearing. This was just one example of how Ms. Harper used activities that engaged every student she was working with, so she could be sure that they were all participating and she could understand what the students did and did not know. Ms. Harper noted that active engagement is important and an essential part to her planning and teaching. She added that she often plans her lessons far in advance, but it never fails that she often has to change and adjust her plans on the spot to make sure lessons are engaging and level-appropriate to all.

Mr. Sawyer

At Mr. Sawyer's school there are open lands all around the school, placing it next to trails for hiking and biking. Although the high school is next door and there are neighborhoods to the north, the school itself is a quiet area. Entering the building guests must pass through the security officers who check driver licenses and then check in with the front office who will direct a guest to their destination. The school consists of 1,458 students attending 6^{th}-8^{th} grades. The minority population is 20.1%, and 4.6% of the students qualify for the free/reduced lunch program When classes are in session, all is quiet, but during passing periods the halls fill with laughter and chatter as the students shuffle to and from class.

To get to Mr. Sawyer's classroom go past the large atrium area and follow a quiet hallway past an open team area and finally Mr. Sawyer's classroom, the last one in the corner. Along the way, there is student work displayed in the hallways and hanging from the ceilings. A wall of windows in the sunny team area eliminates the need for artificial light. In his room, Mr. Sawyer has arranged desks in groups of four or five; a table in the back with additional seats offers alternative seating for some of the students. On the west wall is a display of student work, quotes and/or little anecdotes of how the students are using and applying the 4 C concepts which include; collaboration, creativity, critical thinking, and communication. The classroom also includes a small library of books and few other posters the illuminate topics of study.

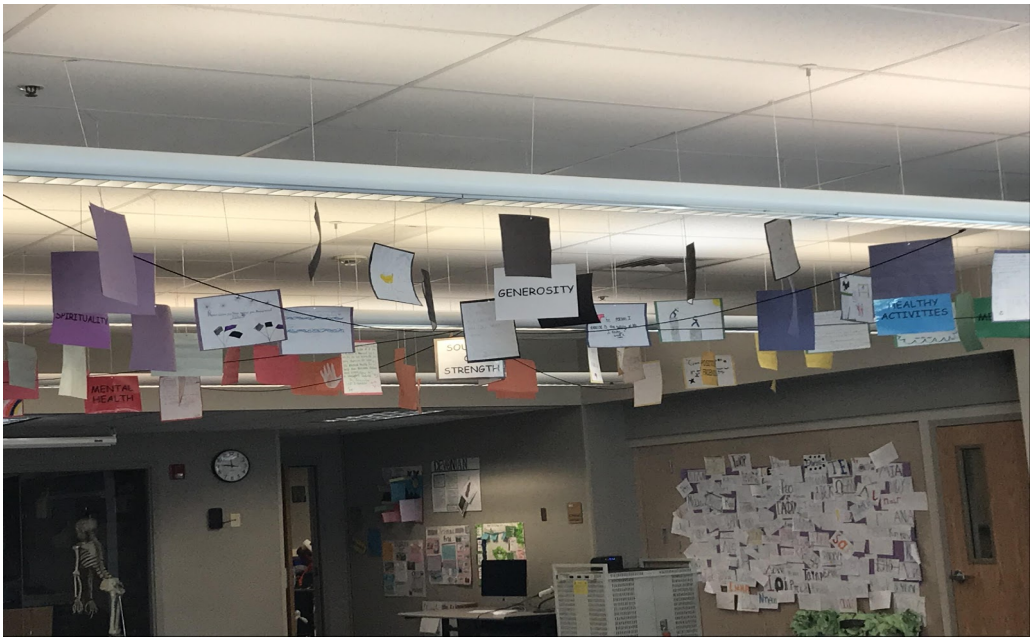

Figure 8 - Student ideas outside Mr. Sawyer's room

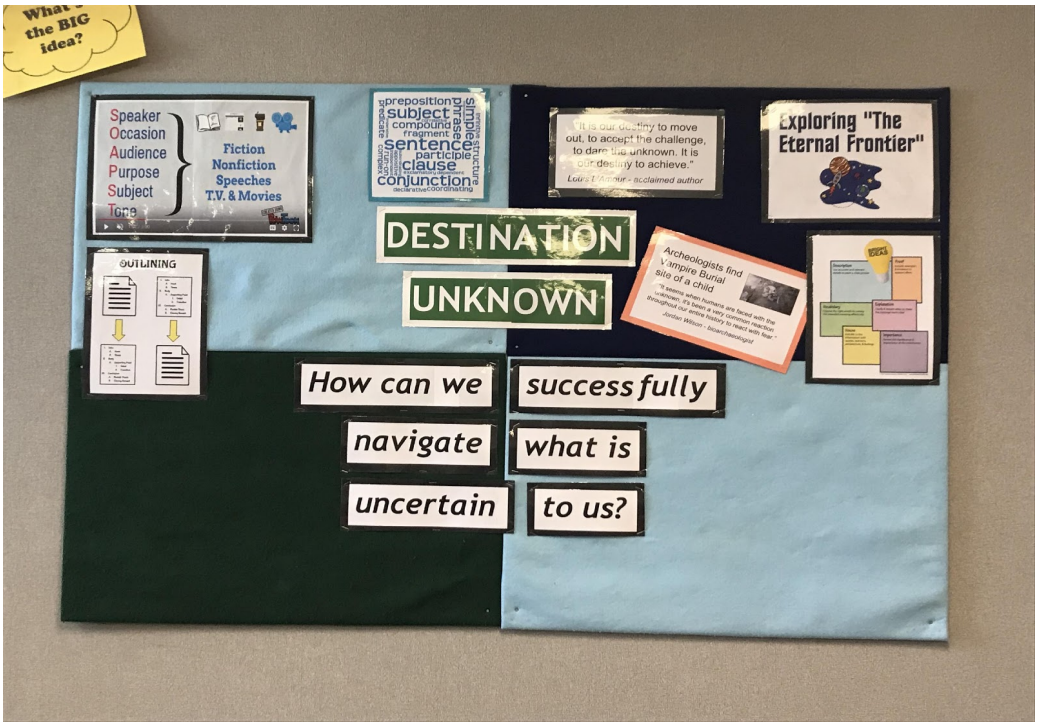

Figure 9 - Mr. Sawyer's motivational board

Mr. Sawyer earned a bachelor's degree in English with a literature concentration, and subsequently returned to school to earn his teaching license. When asked what led him to become a teacher, he said

> It was always something that I wanted to do. I think the times when I feel most rewarded with what I'm working on is when I get to see other people grow…I think that's what led me into this realm, because that's all that we do.

He has taught for ten years, the last five in his current position, teaching 7th grade language arts.

When describing his strengths as a teacher, Mr. Sawyer explains that he is organized and has a lot of patience. Additionally, he identified that he brings a creative approach to the subjects that he teaches. He also tries to implement activities that encourage high engagement with his students, and encourage risk-taking. He described himself as an artistic person who enjoys playing guitar and drawing. He is also always up for a new adventure, going and seeing new places.

Views on creativity. Mr. Sawyer explained his thoughts about creativity:

> I think a lot of it (creativity) happens in the idea-generation phase of whatever it is we're doing. How you're coming up with an idea. And then that continues when whomever is doing the work is deciding how to go about whatever their end goal is, gaining feedback along the way to ensure that they're considering all angles when they create the final product.

He noted that creativity could be evident in both the process and in the product. He likes to use "a framework of experimentation" when teaching his students. He enjoys

approaching different things from different angles, to see what is going to work. “I think this falls into the realm of creativity, because you’re not sure if something is going to work out.” Part of his teaching philosophy includes not having one answer or one way of doing things, being open to multiple ways of learning and demonstrating learning. Mr. Sawyer explained, “Creativity can be evident both in the process and in the product that results.” As far as the creativity process itself, he explained that when students have to make a decision—whether it’s a simple or a more important one—they need to invest in some sort of organization, a process where they can find and weigh different options, and really think about what would be best for the situation. By applying a creativity process students learn to weigh choices, think about directions, and work on implementation. Mr. Sawyer discussed how creativity takes a lot of time:

> Creativity is not something you just whip out in 10 minutes, it’s something that they think about for a while. It might’ve been something that was on their minds weeks or even months ago, that they made a note of and so allowing them that time and that opportunity to discuss things before they settle upon a perspective or topic.

Mr. Sawyer also clarified that reflection is an important part of the creativity process.

In his class he likes to push his students’ thinking during the planning and implementing phase of a project by asking them to think more deeply about what the project would look like and how they could apply those elements either inside or outside of school. He likes to provide his students with choices, especially in how they

demonstrate their learning, in order to engage their creativity and think about real world application.

When discussing what lasting effects creativity can have on students Mr. Sawyer noted, "I think those are the things they will remember." He elaborated that when the students have more input, and must work to come up with an idea and how to demonstrate their point of view, they have more ownership:

> During these projects/presentations they had to try something different or think in a different way. I think those are the things that are ingrained in their memory a little bit more than others. [Creativity can] turn something ordinary into extraordinary…maybe even inspire people in some way.

Alignment to framework.

Mini-c. When discussing how students can pursue concepts or ideas that are interesting to them, Mr. Sawyer said, "I always welcome them bringing their interests into the classroom." He explained that he provides a variety of opportunities for students to incorporate topics that are appealing to them. A recent project was investigating careers. To begin, students took a survey that examined their interests, things they cared about, and their strengths, in order to match them up with compatible industries. From there, they began investigating careers that appealed to them most. When they started to narrow down possible careers they then had to think about the future. "We extended the study to look at how these careers may look different by the time you actually have them," Mr. Sawyer explained. The goal of the project was to encourage the students to

think more deeply about their personal preferences, and ask themselves, if the job changes, would they still be interested in it?

Little-c. Mr. Sawyer also has students work on writing their own blogs, personal narratives, or participate in a school-wide passion project. For two quarters students work on these passion projects, choosing a subject they feel is important and want to learn more about, and use it to become an agent of change. During lab time each week students follow a strategic innovation process that helps them advance from an idea to some sort of tangible product or presentation they give to the entire student body, with an additional opportunity to subsequently present their project to the larger community. The students who take their presentations community-wide have the opportunity to take a trip to Google headquarters in Boulder to further explore how to bring ideas to fruition.

Students work independently within their team areas during lab time, using the team teachers (which include language arts, math, science, and social studies) for support. "I like having our team kids because we have more of a relationship with them," says Mr. Sawyer, "and that helps us to kind of nurture that risk-taking that they're doing during those projects."

CRISPA. Mr. Sawyer explained that connections (CRISPA) are made throughout his classroom in a variety of ways. One way is through dialogue. "I try to make some sort of connection through dialogue with every student at some point during the week. Which is hard when you have 150 students." In addition to connecting with the students through dialogue, Mr. Sawyer works to engage his students electronically by emailing them. He noticed that through emails he could start conversations with students about work they

were doing in class, and he felt it built a trust and helped him to understand the students better as learners. Additionally, he encouraged the kids to email him feedback, letting him know how he can make his lessons better. Through these interactions Mr. Sawyer has used student-based ideas within his classroom. As a result, he feels his students connect and open up by sharing their ideas and perspectives that are then incorporated into the classroom.

In addition to building relationships and connections with the students, Mr. Sawyer also likes to connect what they are learning to their personal lives and the real world. He explained that language arts is naturally connected to their lives because a lot of what they write about is personal stories and personal interests. He also stated that

> Oftentimes at the beginning of a lesson, I might have some sort of anecdote that applies to their lives, something that might go on in their family, or something they might have seen in their community or with their friends, which serves as a springboard into something that might be a little bit more critical…

Mr. Sawyer is a strong supporter of risk-taking (CRISPA) and feels that it is essential to student learning and growth. "I try to communicate to the students that learning is about failing sometimes. I know that is hard for a lot of people to swallow because a lot of them are very grade driven." Mr. Sawyer elaborated that a lot of his students feel like they will get in trouble if they don't get good grades at school, so they are afraid to fail, and in turn afraid to take risks. To help counteract this within his classroom, Mr. Sawyer sets up multiple opportunities for students to demonstrate their

learning in addition to providing provisional grades, so if students try something and it doesn't work out, they can get some feedback and implement the feedback to improve their score. "I think it gives [the students] a little bit more comfort in trying something that maybe they're not going to get right the first time." Mr. Sawyer also likes to push their thinking by getting them to engage in projects that are out of their comfort zone. When they have a culminating project, he asks them to come up with a way to demonstrate their learning that does not follow the norm.

Mr. Sawyer explained that he takes notice of when students are doing something in a less conventional way:

> I like those examples of people who try something different or aren't really worried so much about the consequences…they're just allowing something to happen that wouldn't happen otherwise.

He elaborated by saying that, at this particular school, he feels lucky to be encouraged to try things out. "Even if things don't work out, it's not going to be utter chaos. And so, I feel free to try things in a different way than I might have done before." And through his own ability to take risks, he is able to model for his students what risk-taking looks like and what the results could be.

Imagination is the next concept within CRISPA, and when you ask Mr. Sawyer about imagination in his classroom he says, "That's a heady word…I think that it's something that comes more naturally to some students than others." He noted that he didn't mean that all students aren't imaginative; he just felt that it is something hard to draw out sometimes, especially with students who want direct and straightforward

expectations. To some of them, he felt imagination doesn't serve a role. In language arts, he feels that imagination does have a role in their writing, their reading, and the opportunities they have to discuss fiction. When talking about a story or book he asks the students to think about why the authors chose to do the things they did in the story. He explained that this usually leads to an interesting conversation among them. There is no wrong or right answer, the students just to get to use their imagination regarding how authors developed their characters and/or the plot of the story.

When it comes to writing, Mr. Sawyer explained that the students get to use their imagination when it comes to writing hooks at the beginning of stories, or creating an anecdote in an expository text, but he did admit that in 7th grade there is a shift away from narrative writing to topics that are a bit more applicable to the real world, writing such as essays and research papers. He also felt that students' imagination was starting to wane at this point…

> They're thinking more about the future, and time is more structured with class periods, so the moments where they just get to think about "what if?" are more limited than they were in elementary school.

As far as sensory engagement (CRISPA) in his classroom, Mr. Sawyer said it didn't happen a lot, but there were a couple of activities, such as using imagery, that he included. During this activity, students are blindfolded and then asked to hear, feel, or even taste things. "They don't know what's coming and they have to describe it." Mr. Sawyer explained that exercise creates a lot of excitement within the classroom and helps

the students work on using their senses and then use imagery to describe what they are tasting, feeling, and/or hearing. Another activity he used was for sentence structure: he cut sentences into pieces, labeling each part of the sentence structure, and had the students assemble them into sentences. Mr. Sawyer noted that an activity like this—where they got to actually manipulate the pieces—helped ingrain the concept of sentence structure into the students' understanding. Although Mr. Sawyer said he valued sensory engagement, he didn't think there were a lot of opportunities for it in language arts at this level.

On the other hand, perceptivity (CRISPA) was something that Mr. Sawyer felt was prevalent in language arts. When working on stories and trying to understand the purpose of its different elements Mr. Sawyer explained that the students use inference skills and work on understanding things with a deeper purpose. He noted that they work on looking beneath the surface of what it is they are reading and start to consider the intention of the author or a character within the story. Instead of reading a story at face value, he works with the students to start asking questions: "Why a piece might be written?" "What would have caused the author to write that?" Mr. Sawyer explained that many features of a story are not stated, and as a result a reader must be more perceptive to identify and understand those features. Some examples included determining tone, or an author's attitude, based on word choice: is the writer being serious or sarcastic? "Is this person very personally invested in what they're talking about, based on the types of examples and language they use?" According to Mr. Sawyer, supporting the students in learning to be more perceptive helps them to become more aware of the author's

intention and helps the reader to be more critical about what they are reading. He also noted that he uses it in writing when they are working on imagery, and sometimes poetry as well.

Mr. Sawyer's classroom has a variety of active engagement (CRISPA) activities going on throughout the class period and day. During introductory lessons Mr. Sawyer will be at the front of the classroom, introducing a topic on the Smartboard and preparing students for their next focus skill. Although this can be very boring and mundane, Mr. Sawyer uses a variety of tactics to keep his students engaged; for example, he interacts and uses dialogue with the students often. It's like an ongoing conversation that students constantly contribute to when he is teaching. Mr. Sawyer explained that often the ideas and direction of the learning comes from his students. As they discuss ideas there is sometimes bantering and silliness, but this is just part of his classroom environment. Humor is frequently used in conversation and with anecdotes to keep the kids engaged. During one lesson Mr. Sawyer was reviewing how to make a "Killer Thesis" and he started with a story about "What Not to Do on a First Date." This humorous piece had the class laughing and talking while also engaging them in the elements of the story such as using specific examples. He discussed how he really tries to include curriculum that is interesting to the students. Mr. Sawyer explained that by using stories and information that is relevant to the students they are more engaged and captivated because it's relatable.

Mr. Sawyer also varies his activities from independent or solo work, to group and/or whole class instruction. At this level, he felt that students can do a lot of work on

their own, but they also like to work in groups in order to build collaborative skills and develop responsibility. Additionally, Mr. Sawyer expects students to engage each other in dialogue about their projects and how they are going to produce a presentation or product to demonstrate learning. He feels that opportunities like brainstorming support students in thinking more thoroughly about a topic and their perspective on it. He explained that to keep students engaged in what they are learning, he tries to make sure there is a personal take on whatever concept they are studying:

> Having some sort of personal investment in it, finding some sort of connection between what you are doing and what is happening around you, especially when you have to speak to others and when you have to write to others. So doing something that has some sort of purpose or meaningful for people.

Mr. Sawyer noted that he feels active engagement is essential to his learning environment and he considers that when planning lessons. He also felt as though this is one aspect of CRISPA he felt he did very well in the classroom.

Mr. Finn

Mr. Finn also teaches in a sub-urban area of Denver. Mr. Finn's room is nestled in a little nook before you get to the bigger team area. In his classroom, the lighting is usually turned off, and the only light in the room coming from the corner window. Each day as his students arrive, music is playing as students grab their writing journals; on alternating days, they have specific prompts that encourage them to use their skills, while other days they get to choose. One example prompt might be: "Write about an average

day at school. In your response include two appositives, a coordinating clause, and one subordinate clause." While they work on writing in their journals, Mr. Finn roams about the room checking in with different students, commenting on work they have done or mentioning recent sport events. He often jokes with them and they reply in turn. His sense of humor at these moments creates a welcoming and safe feeling to this environment, where students feel like a part of the community within the classroom.

In his classroom, the desks are in groups of five, except for a few outlier desks that stand alone. The walls are somewhat barren, except the east wall, which has a variety of movie posters on them. You will typically see students talking, laughing, some even dancing as they enter the room. In the front is a large Smartboard that Mr. Finn uses as an instructional tool; most students also carry their own laptops to use for some of their activities. For those children who don't have their own, they can check out a school laptop from Mr. Finn.

Figure 10 - Mr. Finn's movie poster wall

Figure 11 - Student journals

Mr. Finn earned his bachelor's degree outside of Buffalo, New York and then went on to earn his master's degree in reading education. He has taught for a total of five years, two of these at his current school teaching seventh grade language arts. When he explains how he ended up being a teacher, he begins by sharing that his mother was a teacher, and his aunt was a teacher, so it just seemed like "a natural thing." Mr. Finn explained that in growing up in a house with a teacher, it was clear education was important, and it was "ingrained in me, teaching was an important job." He also said that he wanted a job he thought was important and made a difference. "I'm doing a job that is important today, it matters, and I'm contributing somehow to society."

When identifying his strengths as a teacher, Mr. Finn's response is: "connecting with my students." He explained that student connection is important because he argues that gives him more "buy-in" from the students. He often will ask for their ideas on how to teach something or ways they can demonstrate their learning. "I think most of my good ideas have come from students in one form or another."

Mr. Finn also feels that he has good classroom management, noting that he likes to keep things moving and not have too much downtime. In the beginning of the year he works to set up an environment that is respectful, and where students can take risks without feeling embarrassed or worry about failing, which he admits is hard to accomplish but nonetheless can be done. "I try to foster positivity…working with each other to foster that open environment."

Views on creativity. In explaining his views on creativity, Mr. Finn first explained how creativity played a role in his own life. "I like to ingest art, I like to read and go to museums, and be exposed to other people's creativity as well." He noted that his whole family was a huge fan of the arts (except for his brother, who is a geologist and very scientifically minded). He explained that as a kid (and even now) he likes to write and express himself artistically and creatively as often as possible:

> In the classroom, I try and give my students the opportunity to do that as well. I feel like creating and expressing yourself helps get buy-in, and helps you see the relevancy of what we are doing in the classroom.

According to Mr. Finn's beliefs, creativity can look like anything. "In the classroom creativity could be not only taking the material, but using that to express themselves in some way that is unique to them." He expands this idea by saying that creativity includes "personal expression, problem solving, personal input." And although he says he does not feel he is a teacher with the greatest creativity, he acknowledges that teaching language arts is an art in and of itself, and linked to creativity. "Literature is art, and there is creativity rooted in that." He also denoted that creativity in his classroom includes choice, "kids expressing themselves through the curriculum."

In describing his philosophy about creativity, he explained,

> I don't know that I have one philosophy or if it's just a grab bag of a bunch of different things, but a lot of it revolves around application and finding ways for students to see the usefulness of what they are learning and to apply what they are learning."

He explained further that if kids can synthesize information, using it in application, such as creating a movie or presentation, the creativity could come through that application. Mr. Finn also felt that creativity was important in the classroom because he feels it helps students retain the information better. "I think they retain the information better if there is a creative component to it, because it's more memorable and because they had personal involvement in it." He went on to say that he doesn't have students coming back to his room from previous years remembering a lecture he gave, but they

will return and remember something that was "a little left of center" and required them to invest themselves.

When talking about creativity and behaviors in his classroom Mr. Finn said he noticed that some kids dive right into creativity, while other just want to be told what to do. He explained that those are the students you have to help open up: "No one is going to tell you what to do in life." He further explained that sometimes it is challenging to get really high-achieving students to open up, because they don't want to be creative and take chances, they want to know exactly what they need to do to get the good grade. "It's like training them that the grade is just a measurement, it's not a value of you, it's just a matter of where your work is at this point." Mr. Finn discussed how grades can hinder students' creativity because they are more worried about what grade they will earn instead of thinking deeply about what they are doing and how can they produce something that is original and/or personally meaningful.

Alignment to framework.

Mini-c. As Mr. Finn begins to discuss unique ideas and expression, he notes that personally meaningful interpretation is very important within the classroom and that he feels it really helps students to apply creativity. He explains that in order for a classroom to be able to embrace students expressing themselves and sharing their ideas, he must first build a safe environment where students feel comfortable taking risks and trying new things without fear of judgment:

> I really want everyone to feel comfortable with however they are and expressing themselves in whatever way they want, to try and encourage everyone else to value what that person has to offer. Everyone has something interesting to offer.

In order to help students open up, discussing ideas and sharing perspectives with confidence, Mr. Finn uses Socratic seminars, which are group discussions driven mainly by questions about a specific topic. He feels this approach encourages students to work collaboratively and use intellectual dialogue facilitated through open-ended questions. Through Socratic seminars, students learn how to have conversations, how to articulate their thinking, and how to feel open and comfortable with sharing. Mr. Finn believes that through these seminars students are more likely to try things, and take risks on something that might fail, "which is a good thing, it's OK to fail." He noted that these seminars are new for some of his students, so he finds it important to help students engage in these novel experiences.

When discussing how students can engage in concepts or experiences that are both novel and interesting to them, Mr. Finn explained it happens all the time. He admits joyfully that most of his ideas have come from students who wanted to try new things. For example, a current multi-media project was originally just an assignment his students created and then presented, usually in PowerPoint. One year, someone in class suggested they present it in movie form, making a film adaptation of the story, and during the breaks (or "commercials") students introduced concepts such as the importance of the setting to the story or how the plot could have been manipulated. Students embraced this

new approach, and it was a challenge to learn how to create these movies and put them together so the literary elements were represented (the curriculum) while engaging their creativity to assemble the entire project.. Mr. Finn noted that this was an example of a student idea, student-driven, and a creative application of the content they were learning in class.

Mr. Finn shared a few more examples of his students taking the reins of what they were learning and using creativity to express their interpretations and understandings. “I try to create an environment where students feel comfortable going, ‘Well what about this? What if we did this what that? Or how does this apply to that?’’ He explained that when they do plot diagrams, they now create them as comic books. When a student came up with this idea Mr. Finn had him choose a book, and kind of drive the lesson. “I try and leave opportunities like that open. I don’t know that I plan for it as much as I should or if I just let it happen. And when it happens, it’s awesome!” Another recent example Mr. Finn shared was when his students were reading mythology and addressing how value and culture come through in the genre. One of the students asked, “How would this story work with our current culture?” Mr. Finn noted it was a great conversation, and although no actual product was created, the thinking that occurred encompassed creativity. He explained that these are some of his favorite moments in teaching, and that these moments often take him out of his own comfort zone and really make him think along with his students.

Little-c. As Mr. Finn discusses language arts, he identifies the fact that the students are in seventh grade and there is a lot of academic writing going on, and at this

point it's mostly nonfiction. He did note, however, that "language arts is art, and there is creativity rooted in that." Although they spend a lot of time on academic writing, Mr. Finn works to incorporate the students' creativity through their demonstration of learning and through choice.

> I try to have a lot of opportunities for creative writing as well, whether it be in terms of prose, poetry, or even comic books. Things like that, where it's within the curriculum but kids get to express themselves through the curriculum.

One example that he shared was for the multi-media project that demonstrated their understanding of plot and literary elements. Another was when a student asked to write his own comic book version of George Orwell's *Animal Farm*, depicting the elements of the story. Mr. Finn agreed, although he wasn't sure how it was going to turn out. In the end, he shared that the student did a remarkable job and the application of the content encompassed creativity at its finest (see pictures below).

C***RISPA.*** As discussed earlier, Mr. Finn feels that connections (CRISPA) with his students are a vital part of running a successful classroom. By knowing his students well, he is able to adapt lessons and open up to possibilities that will support their learning. Mr. Finn discussed the advantages of connecting with students to support their experiences being personal and meaningful. Mr. Finn also makes connections between the student assignments and topics to other classes and other texts. In their literature circles students made connections between the text they were reading to other books, to the real world, and to themselves. These connections were then used as a springboard for dialogue about

the stories. In addition, Mr. Finn was enlightening the students about text features and to do so he used articles about the 1920's Scopes Trial about evolution. He chose this trial because the students were studying evolution in science class. He explained that he liked to work "across the aisle" (work with teachers in other content areas) when he can, and this was one of those opportunities.

Additionally, Mr. Finn talked about trying to connect the lessons with real-world applications. One example he cited was a project that allowed the students to use multi-media: cameras, videos, video editing software, drop screens and green screens, music and sound effects, and gaming inputs. Mr. Finn worked with the multi-media teacher at the school and was able to use the media classroom and all the equipment within in it to help students produce their projects. He explained it was an awesome opportunity to work with another teacher and offer his students the hands-on experiences with equipment that would be used in the media world. "Authentic" is a word he used to describe these experiences. Mr. Finn explained the importance of these projects because technology is such a big part of his students' lives. "It's the future. These kids, it's their world."

In addition to connections, risk-taking (CRISPA) is another important aspect of creativity that Mr. Finn feels is important to cultivate in the classroom:

> We try to keep things positive in here and keep it light. If you mess up, it's just an opportunity to do better the next time. Most kids feel safe embarrassing themselves in my classroom and feel pretty safe to take risks…I try to foster positivity and how we can learn from our mistakes.

Although Mr. Finn works to create an environment where it is safe to take risks and try something new, he does struggle with this concept when the kids are concerned about grades. “We have a lot of kids in here who feel they need to get A’s, everything needs to be perfect.” But he continues to try and let them know that sometimes “failing is a good thing,” so that they know they can try something crazy:

> Sometimes kids will come up with something that isn’t that great, but that’s the point. You are going to come up with ten not-so-great ideas before you come up with something that is awesome! So I just try to encourage them to keep trying new and cool things.

In Mr. Finn’s classroom, the students appear to be liberated from the fear of conforming and following strict protocol. Students ask a lot of “what if” questions, and have many ideas of how they want to try something new. As discussed previously, students can come up with the idea of making movies and making a comic book, taking risks with something with unpredictable results, and still willing to give it a go.

Mr. Finn linked risk-taking with imagination (CRISPA). “I think imagination is important. I think it goes with risk-taking, pushing kids to use more of their imagination.” He explained that he likes to encourage students to use their imagination, but would like to be better at it, especially with concepts outside of writing projects. Although he admitted he didn’t feel he was encouraging imagination as much he could, he stated he was always trying. “I do think that it starts with choice, but we can extend it to so many

other things, just helping kids use their own imagination and try to piece things together and apply things."

When it comes to sensory engagement (CRISPA), Mr. Finn will admit he does not focus on it or include it too often in his lessons. He did describe one lesson where he took the students outside, to try and experience the outside world and then use figurative language to describe the experience. He asked the students to discuss how something looked, how it felt, and how it smelled. He also shared that he works to include visual and auditory aspects into his classroom. "I try to incorporate concepts beyond my words, for example in literature, nonfiction articles, multimedia components…acting things out. I try to engage and present material in different ways so that it will reach everyone at least once." Mr. Finn also plays music in his classroom as the students arrive, which inspires some singing and dancing upon entry. But other than a few lessons that include sensory engagement, he leaves that to the students, who sometimes include sensory elements in their projects.

Although Mr. Finn does not feel sensory engagement is one of his strong suits, he said he felt that perceptivity is all-encompassing throughout literature. He explained that the very nature of literature, of reading and understanding it, requires the reader to be receptive to different points of view and perspectives. "As a reader you need to be thinking about who is telling the story, what their motivation is, and why the author is including this part or this character" He noted that it is important to think deeply about stories, both fiction and nonfiction. When it comes to nonfiction he teaches his students to understand that a writer always has an agenda, and that the piece they write includes

that agenda or bias. To support this concept, last year his students read a variety of articles on gun control, a hot topic at the time. He included articles from both sides of the issue, and had his students look at the issue from a variety of angles, examining how the authors wrote their stories to make their point. He felt this supported students in becoming more perceptive and more keenly aware of what they were reading.

Mr. Finn also works with students in becoming more perceptive (CRISPA) in their understanding of fictional literature as well. He gave an example of how he asks his students to really think about a story and, if you change one aspect of that work (setting, characters, problem, etc.), how the rest of the story affected?

> We talk about how different things can look from different perspectives, or simply how changing the setting of the story would change the story. How "The Sniper" we read in class is [a short story] about the Irish Republic, IRA essentially. The civil war in Ireland led to the formation [of the] IRA. Now what if we moved the setting of that story to the Middle East? That's what literature is supposed to make us do in the first place, look at things from different points of view. Examine it, try to take into account all the working parts.

In his classroom a group of students were discussing *The Westing Game* and how the different points of view expressed in the novel sometimes make it difficult to understand what was happening, but at the same time, the students agreed that it pushed them to think in a different way about what was happening in the book.

In addition to being more perceptive in literature, Mr. Finn also discussed how instructional strategies such as Socratic Seminars support students in being more perceptive because they must take into account different thought processes and lines of inquiry from one another. He also felt that multiple solutions could lead to deeper perceptivity, because students have to think and apply knowledge to produce a solution that is not already determined, so there are a number of possibilities.

The last piece of CRISPA is active engagement, and Mr. Finn explained that he felt this was one of his strengths as a teacher. He discussed how he works and plans to ensure his students are engaged in what they are working on by using different techniques such as independent work, small group or whole class work, and he strives to give them buy-in by allowing choice and student input. "Student-driven" is how an observer might describe Mr. Finn's classroom, by the way he includes the students' interests and ideas in order to gain "buy-in." He explained

> I think a lot of that begins with giving them a personal stake in something. If they are bringing some of themselves to a project we are doing, then I feel like they are going to be more actively engaged. They are thinking more critically if they have to bring themselves to it.

In his classroom students are engaged in many activities throughout the period. To begin, most days the students write in their journal. Sometimes Mr. Finn has a prompt, sometimes he does not have a prompt, but he uses it as a way to get students engaged as soon as they walk in his room. Another example of active engagement

(CRISPA) is the literature circles the students participate in within their small groups. Each student had a "job" they were working on, to present to the rest of the group about the book they were reading. One student was the connector, assigned the task of connecting ideas, characters, settings, and plots with other books, content, real world, and/or personal connections. There were other jobs that included discussion director, illustrator, and summarizer. As students shared in their groups discussing their books, the conversations took different turns and directions as they examined elements like foreshadowing and point of view. Through the students' inquiries they were able to analyze misunderstandings and identify different perspectives. Although a majority of the students were involved in the conversation, there were a few that seemed to reluctant to contribute, but the group members asked questions of one another and everyone had to contribute to the conversation through their "job."

Mr. Finn also identified how he likes to work with big project ideas. He explained that he starts with small pieces, putting ideas and concepts together and then turns these into larger projects that students work on for a period of time. One example was his Genre Project. Students chose a book they wanted to read, and based on that groups were created. Students then had to read the story, and as a group design different ways of presenting its literary elements using different genres. For example, a play that depicts the main events and/or plot of the story, or a restaurant menu that introduces the characters and their traits. Through this project Mr. Finn explained the students were given choices and ways to express their creativity. This project took several weeks, and the final was their in-class presentations, which included every single student presenting

with their particular group. Mr. Finn felt this helped keep students accountable to their peers and encouraged them to find ways to impress their classmates with their presentations. Mr. Finn felt the active engagement in activities like this was abundant. Each student was required to write a reflection about the genre they chose, why, and how well did it come to fruition. Below is an example of one of Mr. Finn's students reflecting on the comic she made for this project:

> My book project relates to my book, *The Giver*, because it is a comic done in all black and white this relates to the world of the book because the people there have an equal society and they have removed color from the community. They have also made everyone equal and basically the same and everyone is unnerved when they notice that Jonas is skipped during the Ceremony. Another thing that relates to The Giver is the Ceremony that they are having which is where everyone is in an age group and they move up one during this "Ceremony of the Twelve" in which sevens will become eights and eights to nines and so on. My comic also relates to the book by telling why Jonas was skipped because he was chosen by the Giver to be the Receiver.
>
> I chose the genre of a comic because a comic sounded really fun to me but also challenging and it would be easiest to make a comic about the Ceremony instead of making something like a transcript or play about. Part of the reason I also chose this is because most of the other genres were taken but I liked the fact that I had to do something new that I have not done before.

> I think the project turned out great, because my comic was good and it was fun to make and I also liked seeing my other group members work hard on their projects and the ingenuitive [sic] ways they created ways for us to link our comics together and made fun movies and websites.

Mr. Finn discussed how he felt it was important to make sure that students have a "personal stake in something" so that he can get them more engaged in their work. "If [by] what we are doing, they are bringing some of themselves to the project, then I feel they are going to be more engaged…they are thinking more critically if they have to bring themselves to it."

Summary of Findings

After analyzing the data collected from each of the participants and aligning it to the framework of mini-c, little-c, and CRISPA, some notable results stood out. To begin, mini-c—considered the first level of creativity according to Beghetto and Kaufman (2017)—focuses on personally meaningful interpretations of experiences, actions, and events (p.73), and was found most predominately in Ms. Douglas and Ms. Thatcher's classrooms. Both teachers identified how they work to build confidence in their students and support them in using their own ideas. Ms. Douglas discussed how important free play was for her students so they could explore their own ideas and ways to understand their world around them. Ms. Thatcher explained that she likes to be open to the ideas that students bring to the table and to help them talk through those ideas and discuss ways to make them feasible. Ms. Thatcher also felt that supporting their ideas was important,

but, her guidance and feedback was also valuable. Out of the five teachers in this study, these two appeared to focus on mini-c concepts most often. It is important to note that Ms. Douglas and Ms. Thatcher were the teachers of the youngest grades, kindergarten and third grade, so it would seem logical that they were working on the beginning concepts of creativity.

When looking at the other participants in this study, which included Ms. Harper (5th grade teacher), Mr. Sawyer, and Mr. Finn (both 7th grade teachers), the results were slightly different because these teachers focused more on little-c concepts. Craft (2001) identifies that little-c includes agents (focusing on talents, skills, and aspirations), processes (intuitions, problem finding, problem solving), and domains (application and appropriateness of ideas) (p. 54-55). In Ms. Harper's classroom, she explained that she really works to support her students in thinking about things in a different way, and finding different ways to solve problems that makes sense to them. Mr. Sawyer and Mr. Finn, likewise, discussed the importance of students using their own strengths and talents to create presentations and projects that demonstrated their knowledge and understanding of the topic at hand. These results align with Beghetto and Kaufman's (2007) theory that creativity is on developmental trajectory that encompasses different levels. It appears that the younger grades engage in the beginning stages of mini-c, and as the students' domain knowledge and their understanding of application and appropriateness increases, the teachers align closer to little-c concepts of creativity. This is important to understand when thinking about how creativity might look at different grade levels. It is also

important to note that mini-c and little-c were identified in all the participants' classrooms, the emphasis was just different at the different grade levels.

The final piece of the framework to summarize is CRISPA (Connections, Risk-taking, Imagination, Sensory Engagement, Perceptivity, and Active Engagement). Moroye and Uhrmacher (2010) argue that, by incorporating the themes of CRISPA, teachers can support students having enjoyable aesthetic learning experiences, which in turn encourages creativity (p. 101). Although all the themes of CRISPA were present in various ways throughout the teachers' classrooms, some themes appeared more readily throughout the participants' practices than others.

In this study, the themes of connections, risk-taking, and active engagement were highlighted by all the teachers as themes they find important and try to include regularly in their classrooms. All five participants emphasized the importance of connecting learning to students' personal lives and to topics with which students were already familiar. All five teachers also addressed the significance of risk-taking in their classrooms and how it can take on a variety of forms. Ms. Douglas identified that in her class kids are taking a risk just by raising their hands and trying to answer a question, while in Mr. Finn's class students attempted to create movies and write songs to demonstrate their learning. Risk-taking was valued by all the participants as a concept that helps students grow and stretch beyond their comfort zones.

In addition to connections and risk-taking, active engagement was another aspect of CRISPA that all of the teachers valued highly and worked to incorporate daily. Ms. Harper argued that if students weren't engaged then they weren't learning. Mr. Sawyer

also identified the importance of engaging the students through assignments such as their student-driven iLab projects. All the teachers undeniably valued active engagement in their classrooms and discussed at length in their interviews.

CHAPTER FIVE: CONCLUSIONS, SIGNIFICANT FINDINGS, AND SUGGESTIONS FOR FUTURE RESEARCH

Overview of Study

With the growing awareness and emphasis on including creativity in education, there has been a movement to recognize what creativity is and how to include it in education (Robinson, 2011; Starko, 2018; Sternberg, 2007). Sternberg (2007) argued that the world is changing at a faster pace than ever before, and students will need to continuously deal with new and unusual tasks and situations. Robinson (2011) agreed, stating, "Given the speed of change, governments and businesses throughout the world recognize that education and training are keys to the future, and they emphasize the vital need to develop powers of creativity and innovation" (p. 6). He further explained that creativity is multi-faceted and can be fostered in many ways of thinking (p. 49). And although there is support for cultivation of creativity in the classroom, some research has shown that a clear understanding of what creativity is and includes remains lacking within general education teachers (Cho et al., 2017; Kamphlis et al., 2009; Colley, 2015; Hosseini & Watt, 2010; Al-Nouh et al., 2014). In order to investigate the discrepancy between the need for creativity to be cultivated and the actual cultivation of creativity in the regular education classroom, this study sought to gain insight into teachers' understandings of creativity as well as their cultivation practices within the classroom. By

looking closely at how teachers describe and implement creativity, the hope is to feature how regular education classrooms are able to cultivate creativity in their classrooms. And by highlighting these practices, this study hopes to bring more awareness and understanding to the ways teachers gain their understanding and implementation of creativity in the classroom.

For this study, five general education teachers were recruited, all of whom included creativity practices within their classrooms. The guiding research questions that drove this study included 1) What are teachers' perceptions and beliefs about creativity? 2) What kinds of experiences did teachers have to gain understanding and inspiration for creativity? 3) What barriers do teachers perceive relative to cultivating creativity in elementary and middle school education? 4) What supports do teachers find beneficial in nurturing creativity in elementary and middle school education? In order to create a more precise picture of creativity for this study, an interpretive framework using mini-c, little-c, and CRISPA was implemented during data collection.

To gain an in-depth understanding of the teachers and their various creativity practices, interviews and observations were conducted for each participant, and creativity journals were collected from each participant over the span of a two-month window. The data for this study was gathered beginning in late September 2018 and ending in late December 2018. Each teacher participated in an interview which kicked off the two-month data collection. During the course of this two-month period, observations were conducted in the classrooms using the observation protocol (see Appendix D); other "happenings" as described by Stake (2005) were identified as well. During the two-

month period participants also kept creativity journals where they made periodic entries (number of entries varied for each of the participants) focusing on creativity. At the end of the data collection, a final interview was conducted with the participants and their creativity journals were collected, apart from one participant who wanted a little more time to finish.

In Chapter Four, the data was organized beginning with a description of the sites and the participants. Subsequently, the background of each of the participants and what led them to become teachers was presented, as well as what they felt their strengths were as educators. From there, a description regarding the participants' beliefs about creativity followed, with specific examples of how the data correlated with the framework used in this study, which included mini-c, little-c, and CRISPA. To briefly review, according to Beghetto and Kaufman (2017), mini-c is defined as "the novel and personally meaningful interpretation of experiences, actions, and events" (p. 73). Little-c is the lens of creativity that is viewed as being present in everyday experiences, and it can occur with any student on any given day, in any subject (Beghetto & Kaufman 2017; Starko, 2018). Craft (2003) noted that this includes having a grasp on the application and appropriateness of their ideas while involving imagination, intelligence, and self-expression (p. 148). The final lens that this study utilized was CRISPA. According to Moroye and Uhrmacher (2010), the goals that schools should aim for include providing exemplary situations and environments for learning to occur. This could be accomplished through aesthetic learning experiences, with the result being creativity (p. 101). The intention of CRISPA is

to provide support for that goal through Connections, Risk-Taking, Imagination, Sensory Engagement, Perceptivity, and Active Engagement.

In Chapter Five, the data was analyzed and correlated with the four research questions as well as current beliefs about creativity, to build an understanding of how general education teachers are implementing creativity practices within their classrooms. In addition, emerging themes identified in this study were discussed and compared to research and theories on creativity.

Overview of Results

After data analysis, this study found that teachers do have a certain understanding of creativity and work to incorporate it in their classroom practices through instructional strategies, curriculum, and environment. Additionally, the teachers in this study acknowledged having early life experiences with creativity and continued to nurture their own creativity, which in turn supported them in being cultivators of creativity in the classroom. The teachers in this study identified the following barriers in cultivating creativity: time, testing, state/district standards, prescribed curriculums, and student grades. On the other hand, these teachers described the following as the main supports in cultivating creativity: a supportive administration, supportive peers/team members, technology/online communities, and some professional development.

In addition to answering the research questions that drove this study, there were some significant findings that emerged through the cross-case analysis as well. These findings included emotional connection, professional autonomy, teacher training, intrinsic motivation, and creativity stigma (these findings will be explained in more detail

later in this chapter). These findings have important implications on how teachers might approach or embrace cultivating creativity in the classroom. By looking closer at these findings teachers and educators can work to overcome barriers and foster supports to create a classroom that cultivates creativity.

Research Question #1: Beliefs about Creativity

What are teachers' perceptions and beliefs about creativity? As discussed previously, the complexity of defining and describing what creativity entails can be difficult, since the experts have yet to achieve a consensus (Mullet et al. 2016). Studies that examined teachers' understanding of creativity found that teachers were not able to define creativity, or used vague terms to define it, and were unsure of what creativity includes (Colley, 2015; Cho et al. 2017; Kampylis et al. 2009; Mullet et al, 2016). In this study, a definition of creativity and what it entails was purposefully not given to the participants, in order to gain an understanding of what their beliefs were about creativity. Each participant was asked to describe their beliefs and philosophies about creativity in the classroom, to gain a broader perspective of what they perceived as creativity. Although responses varied, there were commonalities among the participants. And within these variances, there were correlations with experts in the field of what creativity is and includes.

To begin, the teachers identified their beliefs about creativity by first discussing the definition of creativity, which included concepts such as artistic, novel, risk-taking, unique paths, and different thought processes. The kindergarten teacher, Ms. Douglas, explained that she felt creativity could be artistic, but is also how kids speak to each

other, take risks, and do new things. She also argued that creativity comes out most when kids have time for free play or come up with ideas on their own. Ms. Thatcher stated that she felt creativity included the way peoples' thinking happens: "being able to see things differently and showing things differently." She elaborated that creativity is not only seeing the things differently, but also being able to communicate that difference with others. Ms. Thatcher added that, in the process of learning what works and what doesn't, creativity required risk-taking as well as failure when trying new ideas and approaches. Ms. Harper described creativity as something that could be artistic, including the arts, but that it also could be how you put things together. "I think creativity is finding new ways to accomplish the same task," she added, "I think it's new ideas."

Mr. Sawyer explained,

> I think a lot of [creativity] happens in the idea generation phase…how you come up with an idea, and then that continues when whomever is doing the work is deciding how to go about whatever their end goal is, gaining feedback along the way to ensure they're considering all angles in their final product.

Mr. Sawyer added that he felt creativity was in both the process and the end result. Mr. Finn felt similarly, that creativity could be evident in both the process of making something, and the final project that is produced. In his personal definition about creativity, Mr. Finn felt creativity could look like anything: "…it is the result of students taking the material they are learning and using it in a way that displays unique thought, a piece of personal expression in what they know and understand." He also mentioned that he saw creativity as problem solving with personal input.

When considering the teachers' definitions common threads emerge among the teachers as well as with the experts in the field. Two of the teachers mentioned that they felt creativity could be artistic, but that it went beyond including the arts. All the teachers declared that creativity was a way of doing something new, or showing new information in different ways. The teachers associated creativity with concepts such as unique, personal input/meaning, or different ways of accomplishing a task. In comparing their ideas to the experts in the field, there are commonalities. For example, Piirto (2004), Amabile (1996), Sternberg (2007), Robinson (2015), and Beghetto and Kaufman (2007) all address how creativity is making something new or novel. Additionally, the teachers discussed how creativity can be expressed through the process of making something as well as the final product, whether that be a presentation, a piece of writing, or a project designed by the students. Csikszentmihalyi (1996), Amabile (1996), Sternberg (2007), and Beghetto and Kaufman (2007) also address a final product that is novel or new as part of their creativity definitions. And although the teachers did not specifically say products needed to be appropriate, useful, or have value as the experts state, they did explain that the products needed to demonstrate learning, new understandings and/or application. And although the products that the students produced would not necessarily change an existing domain (Csikszentmihalyi, 1996), it could possibly change students' perspectives on a topic, and did influence a teacher's idea of how to demonstrate learning. For example, in Mr. Finn's class the students came up with new ways to demonstrate their learning using multi-media, movies, and comic books, which changed Mr. Finn's ideas of how students can present information according to their

understandings. Additionally, the products that the students produced were graded, and therefore did have to be appropriate and/or have value according to the grading system that was established for the products. Although teachers admitted they did not have any formal training on what creativity is or includes, their ideas regarding creativity correlated with experts in the field.

It is important to examine and understand how teachers define creativity because it is through their knowledge of creativity that they are able to cultivate creativity. Both Hosseini and Watt (2010) and Mullet et. al. (2016) highlighted the importance of teachers knowing what creativity was in order to include it in their practices. Hosseini and Watt's (2010) study also acknowledged that teachers who possessed a clearer understanding of creativity also had more confidence in in cultivating creativity. By looking at each teachers' definitions of creativity we can better understand their thinking process behind incorporating creativity into their classrooms.

Ms. Douglas. In addition to gaining insight into how teachers would define creativity, this study also considered the teachers' philosophies about what creativity includes and looks like in the classroom. To begin, Ms. Douglas explained that she felt her background in preschool influenced her philosophy about creativity and how she believes creativity can be expressed when students are given opportunities for blocks, dramatic play, or time to come up with a play on their own. As discussed earlier in this dissertation, Eisner (2002) was a proponent of creating "…a climate that welcomes exploration and risk-taking and cultivates the dispositions to play" (p. 162). Eisner explains that students need the opportunity to play with ideas, create new combinations,

experiment, as well as fail (p. 162). This coincides with Ms. Douglas' philosophy, believing that her students need time to play, explore, and figure what they can do and how they can learn from each other. Ms. Douglas also talked several times about how important it is for students to take risks, and how important it is to create an environment that is safe for her students to take risks. Experts in the field (Beghetto, 2009; Moroye and Uhrmacher, 2010; Sternberg, 2007) also feel that risk-taking is important in cultivating creativity, and that teachers must create an environment that is safe and supportive for students to be willing to take those risks.

In her philosophy, Ms. Douglas also argued that it was important to get students excited about learning new things, so she works to incorporate fun activities and movement to get the students engaged and help them feel comfortable in their environment. Ms. Douglas continued by saying, "As a teacher, it's our job to try and pull out pieces or add pieces to the curriculum…and let [the students] be more creative instead of going through mundane steps." She explained that she liked to incorporate lots of movement and singing throughout their day, making it more sensory-based. This approach relates to ideas within Moroye and Uhrmacher's (2010) CRISPA framework. By including sensory experiences the students have more opportunities to become engaged with their learning through the senses, which can lead to an aesthetic experience.

When discussing the environment of her classroom as it relates to creativity, Ms. Douglas explained that she creates certain areas for specific purposes, like a reading area that is comfortable and cozy, and a table that has a listening center for multiple students to use at once. She described the different stations throughout the room and how students

could move around the room as needed to participate in different activities. Additionally, Ms. Douglas felt it was important to have all the necessary materials available so they could be self-sufficient in getting what they needed or wanted for the project at hand.

Ms. Douglas also addressed the importance of choice when designing her instructional strategies for the day: "I like to have kids be as independent as they can." Starko (2018) suggested that, for students to engage in creativity, they need experiences with choice so they can move towards autonomy (p. 301). Ms. Douglas explained that she is working on a system where students have two stations they need to complete during their literacy block, and then they can choose which stations or projects they want to complete after the assigned work is. She noted that students seem to take more pride and work harder when they have choice and get to pursue something that is more meaningful to them. This concept is similar to Amabile's belief in intrinsic motivation. Amabile (2012) discussed how intrinsic motivation can occur when an individual values the task they are engaging in; they find it interesting, challenging, satisfying, and meaningful (p. 7). Ms. Douglas also explained that she wanted the schedule to be more free-flowing, allowing the students to move from station to station on their own, rather than during a scheduled time.

Regarding potential lasting effects of including creativity in the classroom Ms. Douglas said, "I think it fosters more learning when there's creativity involved. Generally speaking, they hold onto things longer when they're doing more creative things." She noted that by "having kids act out a story, being more kinesthetic and interactive in physically seeing the pieces of the story, they are more apt to learn and remember." This

is similar to the idea of creating an aesthetic experience which, according to Uhrmacher (2009), can have lasting effects on student learning and turn ordinary experiences into the extraordinary. This is important because as Uhrmacher (2009) stated,

> By providing aesthetic learning experiences, then, we should see an increase in the joy of learning. The upshot of joy in learning is that students may desire to keep on learning that particular subject. Perhaps they will become a lifelong learners in that area of study. (p. 630).

Ms. Thatcher. When it comes to explaining her philosophy on creativity, Ms. Thatcher states:

> I think creativity is the classroom is just allowing opportunities and encouraging kids to use their own ideas and to show their understanding. Also, using some of their strengths encouraging them to find creativity.

In describing what she felt creativity included, Ms. Thatcher noted that some people felt creativity was drawing or painting, but, "I think creativity is ideas based, and some people have the skills to put that on paper in different types of ways." Philosophically, she felt it was important to make sure there was a place for this to occur, to encourage opportunities. Additionally, Ms. Thatcher noted that this means taking risks and sometimes failing. As mentioned before, this concept coincides with the thinking of experts in the field. Sternberg (2007) discusses how students need to understand that creativity comes with risks and that sometimes you might fall flat on your face. He also stated that uncertainty and discomfort are part of a creative life (p. 14).

To support students in their creativity, Ms. Thatcher challenges herself to use creativity too, to think outside of the box, to be flexible, and to be willing to try

something that might fail. She works to be open to student's ideas and how they want to show their learning:

> I think my role is to just keep encouraging and be excited when they have new ideas. Be open to it, and if there is a bit of a miss, it's my job to help go back and fill in those holes…helping guide them where those holes might be.

Ms. Thatcher uses project-based learning to support creativity in her classroom, because she feels it allows for a higher level of understanding. She explained that if you teach ideas in isolation her students might master the skill, but they won't have the opportunity to see they might work together or in application:

> In project-based learning, you're providing an opportunity for those connections to be made, and to apply those skills, which is a higher level of learning then just understanding the skills, and encouraging them to put it in a real-world context.

Thomas (2000) would agree that a project-based curriculum is valuable in supporting creativity because it creates authentic problem solving that is student-driven, supports the students' intrinsic motivation, encourages novel work that is appropriate, and has value because it completes the task at hand. A key example was Ms. Thatcher's students building a city. The students were using and applying math skills (perimeter and area), mapping skills (blue prints for the city) and social studies skills (environment impacts living situations) in congruence, which is what people do in the real world. These skills are similar to Stoian (2016) who describes that assessments could be used continuously; these could include a variety of measurements such as portfolios, projects, group

discussions, public theme presentations, possible development of work plans, and even assessments that focus on construction of knowledge (p. 105).

Ms. Thatcher described her classroom as student-centered; she likes to build a strong community within the classroom that includes lots of choice. She did note that sometimes too much choice can be crippling to kids, especially those that are afraid to take risks or to fail. Ms. Thatcher stated that she works to build an environment in which the kids feel safe to take risks and/or fail, to have a growth mindset. Beghetto (2013) also notes how important it is for teachers to support the development of their students through encouraging creative expression and by providing feedback that supports them in developing their creative potential and ability (p. 116).

When examining Ms. Thatcher's classroom, it's important to note there are a variety of places and spaces throughout the room. Ms. Thatcher explained that she loves to incorporate flexible seating within her classroom, and up until this year she didn't even have traditional desks in her room. She prefers to create spaces that students feel comfortable in so they can work in different ways: individually, with a partner, or in a small group. Ms. Thatcher spends a lot of time at the beginning of the year establishing appropriate in-class voice levels and awareness for what the children are doing within the classroom. This is important to creating a learning environment that is supportive to all types of learners. Ms. Thatcher elaborated that while some students don't mind it loud, for others too much noise can be a distraction. She also likes to build a classroom where students have self-sufficiency and the autonomy to move around, find their spaces they want to work, and collect the materials they need with ease. Experts such as Tharp

(2003), Amabile (2012), and Florida (2012) believe that environment is a key factor that influences creativity. Amabile (2012) argued that in order for someone to be creative, they need a space where they have freedom to make choices, take chances, or try something new, which can lead to an innovative or original idea. And according to Davies et al. (2013), environments that include flexible space and time help stimulate creativity.

When describing the benefits that creativity brings to the classroom Ms. Thatcher noted that she felt it supports students in building their confidence and esteem, and helps identify what students' talents are, so they can demonstrate their learning in different ways. Furthermore, Ms. Thatcher explained,

> I think there is more sustainability because there is more ownership [for the students]…you have a chance to see things from a different way, rather than just thinking this is just another thing I have to do for school.

Additionally, she explained that creativity can allow for "messy learning," allowing students to have that growth mind set and turn in work and then make corrections and changes to improve the final product. Ms. Thatcher also argued that reflection is important in creativity, learning from the process and using that in the future.

Ms. Harper. In her philosophy about creativity Ms. Harper explained that to help creativity flourish in her classroom she must know her students and their learning styles well, to use both to her advantage in helping them grow. Using creativity within her classroom meant taking what they must learn and teaching that in different and fun ways. She also felt that part of her role in cultivating creativity was allowing and encouraging

students to be in control of their learning, by "backing off so the students are more responsible for their learning through creativity," although she admitted this was hard. "Slowly handing it off to them so they see what it looks like and see that I have to be vulnerable, too, through risk-taking… create[s] an environment that allows them to be OK with mistakes, because mistakes are hard." One of Hennessey's (2017) practical suggestions for including creativity in the classroom is the idea that teachers must work to create an atmosphere where students feel in control of their learning process. Ms. Harper admitted it can be difficult, but believes that autonomy for her students is important.

To build a classroom environment that supports creativity, Ms. Harper explained that she has been working on building a room of risk-takers and students that support each other. "In my class I have talked significantly about how mistakes are not mistakes, they're learning opportunities…I want to encourage that you got it wrong, but who cares, let's figure out how to fix it." She also explained that she supports them in their risk-taking, which helps build their confidence, so they are willing to try more things than they normally would. Beghetto (2013) is a big proponent in supporting students in taking risks, both in creative self-efficacy and intellectual risk-taking (p. 115). Beghetto writes that efficacy is important in helping enhance creative accomplishments by building confidence and persistence which are both needed to move from mini-c to Big- C expression and achievement (p. 116). And although Ms. Harper focuses more on mini-c and little-c within her classroom, she will note it is all a process, building her students' creativity confidence for the future.

Within her classroom Ms. Harper uses a lot of technology, which she feels is something that naturally brings out creativity for both her and the students. She explained that her students are not that familiar with computers, so students are figuring out new ways to navigate programs, or use programs like Google Cast in the classroom. Ms. Harper also acknowledged that she often is a risk-taker when trying new technology, because she isn't sure exactly how it's going to go, but she noted that "at least I'm modeling creativity." In his research, Florida (2012) noted the important role teachers play in fostering creativity by modeling creativity. By becoming a risk-taker herself, Ms. Harper's students can see the advantages and the failures associated with trying something without necessarily knowing the outcome.

In her instructional practices, Ms. Harper explained that one of biggest focuses is student engagement. "Engagement is important for sure! If they're not engaged you're not doing anything, your job cannot be accomplished." Active engagement puts more responsibility on the students; it gives them some accountability for their learning. As Conderman et al. (2012) discussed, "Learners learn better when they are actively engaged" (p. 33-34). Moroye and Uhrmacher (2010) also explained the importance of active engagement, and getting students engaged in their learning either physically, intellectually, or both (p. 102). One of Ms. Harper's personal goals for growth this year is using more engagement activities in class.. She explained that she has started to use more games within her classroom requiring students to get up and move, and talk to each other; everyone must be involved. "It's those engagement strategies that I have used that have helped my kids stay more focused, and I think it plays into the creativity factor."

Ms. Harper discussed the lasting effects of creativity, believing there is more than one. “I think if they feel welcomed and they feel that their ideas can be heard in any capacity,” she said, “then they want to keep sharing.” By creating a classroom that is supportive, students are willing to try new things and experiment with new ideas. Ms. Harper works to build a culture among the students that builds each other up, understanding that everyone makes mistakes. She correlated a nurturing environment with students having more freedom and to students all learning together.

Although Ms. Harper feels creativity is important and wants to include more within her instructional and curriculum practices, she did note within one of her journal reflections that she felt she needed to include even more creativity into classroom. “I think that comes from planning more succinctly…finding fun ways to approach it.”

Mr. Sawyer. In describing his philosophy on creativity, Mr. Sawyer noted that he likes to use a framework of experimentation; memorization and rote learning are things he doesn’t do in his classroom. He explained that he likes trying out different things, which falls under the realm of creativity because you aren’t sure how something is going to turn out:

> We approach things from different angles and seeing which one is the best. I would say that’s probably the strongest tie to creativity…not having one way to do something, but there might be better ways to do this than others.

To accomplish this Mr. Sawyer explained that builds confidence [in his students] in taking chances and trying something that maybe the students have never tried before. He felt this included how they presented their ideas, using different examples that they don’t

see all the time. Starko (2018) identifies Creativity Problem Solving as being linear in the early stages and then becoming more fluid in the later stages, generating ideas and planning for action (p. 34). Mr. Sawyer's philosophies seem to agree with this; as he explains in the beginning, he helps the students identify and understand concepts, then expects them to demonstrate their knowledge in their own unique way. This also could be associated with divergent thinking, and having many possible ways of solving a problem or creating solutions.

Furthermore, Mr. Sawyer explained that within his instructional strategies and his curriculum he tries to use materials that are interesting and relevant to the students' lives, a curriculum model called *authentic learning*. By choosing concepts "a little closer to home," Mr. Sawyer explained that he can build a comfort level with the students where they can then feel like they can try something new. When describing how they start a new topic for writing, he said they spend a lot of time brainstorming on the formation of ideas. He specified that there is a process to what they do and that creativity takes a lot of time. "It's not just something you can whip out in ten minutes, it's something that they need to think about for a while." Mr. Sawyer noted that sometimes their ideas or topics have been on their minds for weeks or even months before having the opportunity to pursue it. He believes in providing opportunities for students to engage in topics that are important and relevant to them. One of the programs they do school-wide is a passion project where students work on a service project related to serving people locally or globally. Students must investigate the need, decide on a plan of action, and follow an innovation process that supports them in taking an idea and turning it into a tangible product or presentation.

There is an opportunity to take the project community-wide and students get to go to Google headquarters in Boulder to see the process of how they help ideas come to fruition. Mr. Sawyer explained that he likes to give students these opportunities and encourage real world application whenever possible. According to Lombardi (2007), this type of curriculum supports students in sustained investigation using multiple sources and perspectives as well as collaboration and reflection (metacognition). Moreover, the culminating project is authentic and valuable (p. 3-4).

In addition to authentic learning, Mr. Sawyer likes to provide times where students can work individually and focus without being distracted, while other times he likes the classroom to be more open and for students to hear other peoples' perspectives to challenge their own thinking. Kozbelt et al. (2010) discussed this when talking about cognitive theories related to creativity; additionally, they noted that tactile thinking could include ideas such as changing perspectives, looking at problems backwards, and questioning assumptions that have already been made. Along with different angles and perspectives, Mr. Sawyer also feels that reflection is important in understanding and application of creativity. He used an example from his classroom to demonstrate the effect reflection had on his students:

> They recently turned in some reflective responses and some students recognized that they really focused on how to begin and end a paper in a way that keeps the reader interested. A lot of them realized that is something that takes creativity. They're not just being straightforward, they're thinking about different ways they can approach their topic.

When discussing the lasting effects creativity has on students, Mr. Sawyer stated, "Those are things they remember, probably more so when they had to think of an idea, they have more ownership in that." He explained that when students try something different and invest themselves in some sort of process or organization where they must find different options and weigh those options, the learning is more ingrained in their memory. He felt that students working through the processes and really thinking about ideas and how the presentation of ideas impact others were more invested and in turn gained more knowledge and understanding from the experience:

> What I tell the kids is that [creativity] is one of the things that turns something we're are doing that is ordinary into something extraordinary. That's basically the catchphrase I always use with them. And I think we know that because people take notice. It's not something that we just say OK, but something that we think about later and maybe it even inspires people in some way.

Amabile notes that giving choice and allowing for different avenues for students to meet goals encourages a sense of autonomy and supports intrinsic motivation (as cited by Stark, 2018, p. 280). Hennessey's (2017) research suggests that intrinsic motivation is important when creating an environment that is conducive to creativity; therefore, he feels it is important for teachers to recognize that and encourage it within their classrooms (p. 245-246).

Mr. Finn. To describe creativity, Mr. Finn explained that it can look like anything. Mr. Finn stated that he likes to think of himself as a creative person, but he is not necessarily an artistic person:

> I try to express myself in life creatively as possible, and in the classroom, I try to give my students the opportunity to do that as well. I feel like creating and expressing yourself gets buy-in, and helps students see the relevancy of what they are doing in the classroom.

Mr. Finn explained that he felt creativity in the classroom revolved around application and students finding the usefulness in what they are learning, and how to apply that to their lives and the real world. Mr. Finn identified that creativity ties into the students' work when they can take the information they are learning, synthesize it and then apply that in a creative manner. Starko (2018) is a proponent of this line of thinking: "Learning activities designed to foster creativity cast students in the role of problem solvers and communicators rather than passive acquirers of information" (p. 21). Mr. Finn concurred, wanting his students to take ownership of what they are learning and what they will do with that newly acquired knowledge.

To support students in their creativity Mr. Finn works to create a classroom that is supportive and safe. "I try to foster positivity and that we learn from our mistakes and not to put anyone down. If you mess up, it's just an opportunity to do better next time." Mr. Finn described the environment in his classroom as one that is open and that kids feel comfortable and willing to be wrong and take chances and even possibly "fall on their face." He notes that we all make mistakes, especially when we are trying something new. In his philosophy, he felt that sometimes you have to fail at something ten times before you can be successful, and that learning is a process that teaches you and helps you grow. This philosophy aligns with experts such as Sternberg (2007), Moroye and Uhrmacher

(2010), Starko (2018), and Beghetto (2013) who are strong proponents of taking risks and that failure is part of a learning process, but a safe environment must exist for this to occur.

In his instruction, Mr. Finn felt it was important to use a variety of instructional strategies to reach all the different types of learners in his classroom. “I have to get creative and use creativity to show the material in more than just one way.” In addition to his expression of ideas and different ways of presenting information, Mr. Finn said he was also open to ideas from his students, and divulged that a lot of his ideas came from them. Within his classroom, Mr. Finn encourages his students to share their ideas and input on classroom practices. He likes students to have ownership within the classroom and for students to see that their ideas have value, and includes a lot of choice for the students. Starko (2018) discusses the importance of choice, suggesting that students who engage in choice and have autonomy are more likely to engage in creativity (p. 301).

Mr. Finn also noted that he is responsible to enlighten the students on specific standards, but that he likes them to express their learning and understanding in ways that is personally meaningful. Mr. Finn also stated that he likes to incorporate Project Based Learning in his classroom. He likes to work on projects that take time: students go through a process of deciding on topics, choosing an angle or perspective, and how to present that to an audience. Mr. Finn also stated that he doesn’t mind working with other teachers “across the aisle” meaning from other subject areas, but it is difficult to do because of different schedules. According to Thomas (2000) project based learning is valuable in supporting creativity because it creates authentic problem solving that is

student-driven, supports students' intrinsic motivation, encourages novel work that is appropriate, and has value because it completes the task at hand.

To cultivate creativity Mr. Finn explains that his role is to present the information and/or the problem and then facilitate the different solutions. This is when the creativity comes in, when the students show their understanding and application of the information. Mr. Finn says he likes to sit down with the students and discuss their ideas, to support them in getting where they are going, because everyone has different ideas of how they are going to get there. This correlates with the ideas presented by Lombardi (2007), that teachers who challenge students, while supporting their interests and skills and using a variety of ways to solve problems, support creativity in the classroom (p. 3-4).

Table 7 - Summary of Teacher Beliefs/Definitions and Philosophies

Teacher/Grade	Belief/ Definition	Philosophy
Ms. Douglas Kindergarten Teacher	Taking risks, doing new things, how kids speak to each other, can be artistic	*Argues creativity comes out the most when kids have time for free play, or when they get to come up with their own ideas. *Creating an environment where it is safe to take risks. *Sensory engagement through music and movement. *Different areas of the classroom designed for different activities. Some quiet others loud, some independent others for group work. *Materials available to students so they can be self-sufficient. *Believes creativity entails a lot of choice for the students.

Ms. Thatcher 3rd Grade Teacher	It's how people's thinking happens, being able to see things and show things differently. Also, being able to communicate that with others. Requires risk-taking.	*More ideas based *Allowing opportunities and encouraging kids to use their own ideas and to show their understanding. *Project-based learning using interdisciplinary and real world connections. *Student centered classroom *Variety of assessments tools *Classroom designed with a variety of places and spaces for the students to use (flexible seating options). *A process and a product that includes some failure in the process of learning of what works and what doesn't, when trying new ideas and new approaches. *Students whom are self-sufficient *Providing lots of choice
Ms. Harper 5th Grade Teacher	How you put things together, finding new ways to accomplish the same task.	*Knowing students and their learning styles well and use that in supporting their growth. *Teaching in a variety of ways and build excitement. *Student driven, encouraging students to be in control of their learning. *Creating an environment that encourages risk-taking and that mistakes are part of the learning process. *Building strong relationships, encouraging and building confidence. *Modeling creativity, thinking outside of the box, taking risks, making mistakes. *Active engagement

Mr. Sawyer 7th Grade language arts	How you come up with an idea, and the process of deciding how you want to accomplish the end goal. Using feedback along the way.	*Includes the process and the product. *Built on frameworks of experimentation. *Building confidence in taking chances and trying things they never have tried before. *Demonstrating knowledge in unique ways. *Divergent thinking/ Many solutions *Relevant and authentic learning. *Takes a lot of time, a process that can last weeks or months. *Reflection
Mr. Finn 7th Grade language arts	Can look like anything, the result of students taking material they are learning and using it in a way that displays unique thought, a piece of personal expression in what they know.	*Process and Product *Problem solving with personal input. *Application of knowledge that is relevant to students and has value in the real-world. *Students taking information, synthesize it, and apply in a creative manner. *An environment that is open and safe. Students are encouraged to take risks and learn from mistakes, but realize it is part of the process. *Student driven classroom, student ideas and input has value. *Choice, expressing learning in ways that are personally meaningful. *Project-based learning

After reviewing the teachers' responses about what creativity is and includes as well as their philosophies about creativity, there were some correlations to studies as well as unique understandings. To begin, the teachers in this study did not necessarily feel they were overly creative, but they were selected because their administrations felt they

demonstrated cultivation of creativity in the classroom. That being said, the teachers did appear to be confident in their understandings and beliefs about creativity, as they were straightforward in their answers. The teachers all seemed confident they were cultivating creativity in their classrooms and described specific models that were identified with cultivating creativity, including problem-solving, project based learning, authentic learning, intrinsic motivation, self-sufficiency, and risk-taking.

Although there are studies and beliefs about teachers' lack of understanding and implementation of creativity in the classroom (Cho et al., 2017; Kamphlis et al., 2009; Colley, 2015; Hosseini & Watt, 2010; Al-Nouh et al., 2014), this instrumental case study provided specific data demonstrating that some teachers do understand creativity and they are working to incorporate creativity practices into their classroom. This is important because, as discussed earlier, the need to prepare students for a new century is imperative (Cropley, 2001; Sternberg, 2007). And the benefits of cultivating creativity in the classroom have been clearly documented through research; these benefits include supporting students' critical thinking skills, motivation, engagement, and divergent thinking (Amabile, 1998; Beghetto, 2015; Eisner, 2002; Greene, 1995; Florida, 2005; Robison, 2009; Sawyer, 2015; Sternberg, 2007). Furthermore, the Qualifications and Curriculum Authority (2005) also identified that the promotion of creativity in the classroom can improve student behavior, social skills, self-esteem, and academic achievement. By recognizing what teachers are doing to cultivate creativity in the classroom, this study hopes to support other teachers in including creativity practices in their classrooms as well.

Research Question #2: Gaining Understanding and Inspiration

What kinds of experiences did teachers have to gain understanding and inspiration for creativity?

Gaining knowledge about creativity. To better understand where teachers were gaining their knowledge about creativity, this study examined the teachers' knowledge of creativity and where they gained that knowledge. Ms. Douglas felt that she gained most of her knowledge about creativity and nurturing creativity through her pre-school experience. Ms. Douglas noted that when she was teaching pre-school there was a lot more creativity and choice in addition to structured play. She also discussed how students were able to go where they wanted to go and participate in activities of their choice, so it was student driven. Russ's (1996) study on play and Mellou's (1995) examination of the literature on the relationship between play and creativity both concluded that a strong, positive relationship between the two existed. Ms. Douglas felt the same way, that the more play and choice students had, the more prevalent creativity would be in their ideas and work.

In addition to her pre-school background, Ms. Douglas specified that being able to converse with coworkers was important in learning different ways to cultivate creativity in the classroom. Every teacher has so many different ideas, she said, that there is much to learn from one another. Furthermore, Ms. Douglas felt that observing each other's classroom clarified what her peers are doing to cultivate creativity in the classroom.

Ms. Thatcher pointed out that she gained her knowledge about creativity from a variety of sources. "I just love to learn, so I go onto a lot of blogs and I'm in a lot of

online groups where people share their ideas." Ms. Thatcher clarified that many of her ideas came from connecting with others' perspectives. She noted that she does a lot of research, looking for creative ways to teach in her classroom, but that she also has to make things her own, and tweaks and changes lessons and ideas so they will work well with her students. Ms. Thatcher added that she was exposed to some of the 21st century teaching philosophies when she went back to school, which helped to build an understanding of newer pedagogies and opened her mind to different ideas and perspectives. When addressing what she thought was most helpful in building her understanding of creativity she was quick to note, "community! I'm very relationship driven, so I really want that emotional side of it, seeing how things worked for other kids." Ms. Thatcher reasoned that by seeing the good, the bad, and the ugly she was able to better understand how/why some lessons worked for some students and why some did not. She expounded, "I feel more connected to that part," to learning, expressing, and teaching creativity through the emotional connection. Csikszentmihalyi advocates that creativity represents more than just an idea or product, and that it can be an interaction between person, product, and environment. For Ms. Thatcher this is especially true since she gains most of her knowledge through her interactions with people and through her environment.

Ms. Harper stated that most of her knowledge about creativity has come from her own successes and failures. "I've been given that range of motion…do what you need to make it happen and see how your kids respond." With this freedom, Ms. Harper emphasized that she is given the opportunity to experiment and find what works best for

her students. As part of the learning process she has had days where things have worked smoothly and successfully, and other days when it has not worked. Through these experiences, Ms. Harper feels she is gaining newer understandings of how to support her students in creativity and to create a culture of risk-taking and original thinking. Kozbelt et al. (2010) suggested that students need to be independent and to have autonomy, and then are able to have more original ideas and thinking (p. 26). Although this was directed for students, in Ms. Harper's case it appears to be true for teachers as well. She argued that the more freedom and autonomy she had to try out novel ideas within her classroom, the more she could support the cultivation of creativity for her students.

When Mr. Sawyer discussed his understanding of creativity he conveyed that a lot of it has come from life experiences. He explained that when he goes to new places and encounters new things he tries to incorporate those new experiences into his teaching. He also articulated that within his district there have been professional development sessions where he has witnessed creativity within session, but he did not think creativity was the main focus of the professional development. He explained that they have worked on Project Based Learning, which included creativity. He noted that he uses the models that are presented as springboards for something that he can do with his students. Thomas (2000) also noted that the project-based curriculum is important because it creates authentic problem-solving that is student driven and in turn increases student intrinsic motivation (p. 9). Mr. Sawyer also emphasized that he uses rubrics to help him understand and guide students in using creativity within the projects. He explained that he uses his schools' philosophy on creativity as well as sites such as EdLeader 21 (*Leading*

Together, 2019) where they breakdown creativity into different aspects. He highlighted how these rubrics helped him to understand that creativity is not just in products and idea formation, but that creativity can be happening and cultivated all the time. "These help me to allow for and to provide instruction on creativity within different things that we are doing, those have been a big help."

As Mr. Finn addressed the idea of where he gained his knowledge he was a little hesitant at first. He then stated that he mostly gained his information from other teachers and from experiences, but not really from any schooling. Mr. Finn explained that he gets a lot of ideas from other teachers, sharing ideas and what they are doing within their classrooms. Mr. Finn indicated that in his previous school there was a lot of openness in terms of sharing what they were doing in different grade levels and subjects. He noticed that there was less openness in his current school, due to different schedules and departments, but that he did get to work closely with the other seventh grade teachers. By sharing ideas and talking about what they are doing he can take "bits and pieces" of others' lessons and cultivate that to match his own teaching style, supporting students in building their confidence in creativity. Mr. Finn also acknowledged that student feedback and seeing what students could do when given the chance also helped him to better understand how to cultivate creativity. Keeping an open mind to what the students have to say has helped him: "I learn from them and their ideas." Mr. Finn also noted that another resource is the occasional professional learning opportunity; for example, a gifted and talented learning seminar he went to last year. "It was a very eye opening experience, and some of the stuff was really interesting." Mr. Finn acknowledged that he likes to

keep his eyes open to new different ideas he can use to incorporate creativity into his classroom. Table 8 on page 193 summarizes the teachers' inspiration for creativity as well as where they gained their knowledge.

By looking at the different places teachers gain their knowledge about creativity, some specific patterns appear. One idea that is apparent is that the teachers are not getting a lot of direct practice or instruction on what creativity is or how to incorporate it within their classrooms. In the discussion about creativity and its implementation Ms. Thatcher, Mr. Sawyer, and Mr. Finn acknowledged receiving some training when they went to a district level Gifted and Talented workshop that focused on instructional strategies and curriculum models to support creativity. Although they all enjoyed the workshop and gained some great ideas, not all of them seemed to benefit from it as much as they would like. Mr. Sawyer explained it was just two days long, with no follow up or follow through, so he lost most of the ideas before he implemented them. Mr. Finn noted that he liked it, but a lot of the ideas seemed too big to tackle in the amount of time they have in their classrooms. Ms. Thatcher, on the other hand, did enjoy the workshop and has attended it several times. She noted that she picks up some great ideas that she is them able to implement in her classroom (with some tweaks to it, of course). This is important because out of five teachers only one felt she was getting some training that supported her in understanding and implementing creativity in the classroom. If the hope is to increase cultivation of creativity in the classroom, then this needs to change; there is a need for more training and support around creativity in the classroom for teachers in the field. Starko (2018) suggested a person can cultivate creativity in a certain domain based

on their individual intelligences, their personality, social support, and the domain and field opportunities (p. 79). Taking this into consideration, it would be beneficial for schools to think about how to provide social support and opportunities for growth as it relates to creativity.

Inspiration for creativity. When the teachers started discussing their experiences with creativity, many of them begin with their own personal experiences. As Maslow (1967) and Schank (1988) identified, creative people are creative not because of any traits they are born with, but rather through their attitudes of how they live their lives (as cited by Sternberg, 2010, p. 355). Additionally, Sternberg and Lubart (1999) highlighted that those who have positive beliefs towards creativity and include it in their own lives can then nurture children's creativity. In this study, Sternberg and Lubart's (1999) ideas seemed relevant because all five teachers had specific examples of why they liked creativity and where they felt they got the inspiration to cultivate creativity in the classroom. To begin, Ms. Douglas explained that she loves the outdoors and to travel. During and after these adventures Ms. Douglas enjoys taking photographs, ones that capture her experiences and bring back specific memories. For a while Ms. Douglas noted she would create albums and scrapbooks of her trips. She even explained that in her house she has her own photographs hanging up on the walls. Ms. Douglas identified this as one of her key creative outlets, creating, organizing, and publishing her personal memories as keepsakes. In addition to photography and scrapbooking, Ms. Douglas also likes to be creative in her gift giving, coming up with unique ideas that are special to the person. Furthermore, she stated that she enjoys planning events with family and friends,

deciding on places, décor, themes, all inspired by her own creativity. Although Ms. Douglas will say she doesn't have as much time as she wished she could to devote to her creativity, she still enjoys the opportunities when they arise.

Ms. Thatcher also professed that she had numerous creative outlets and explained this was just in her nature. One of Ms. Thatcher's favorite creative pursuits is writing. She explained that she likes to keep a journal, setting her intentions for the day and to open up her mind to ideas in the morning. In this study, although she didn't have much time, she created entries that were written but also included pictures and illustrations to illustrate her thinking (see pictures below).

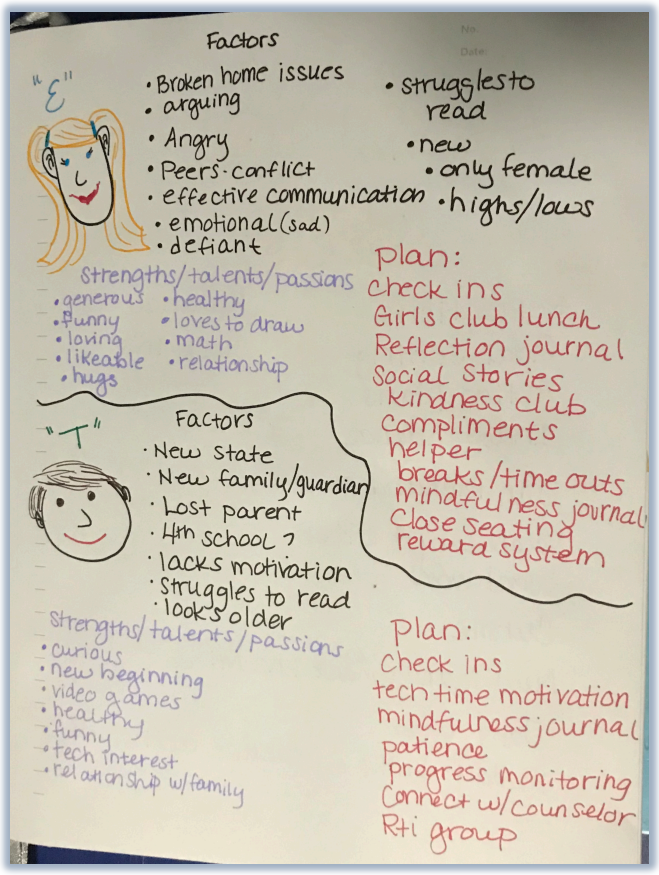

Figure 12 - Ms. Thatcher's creativity journal

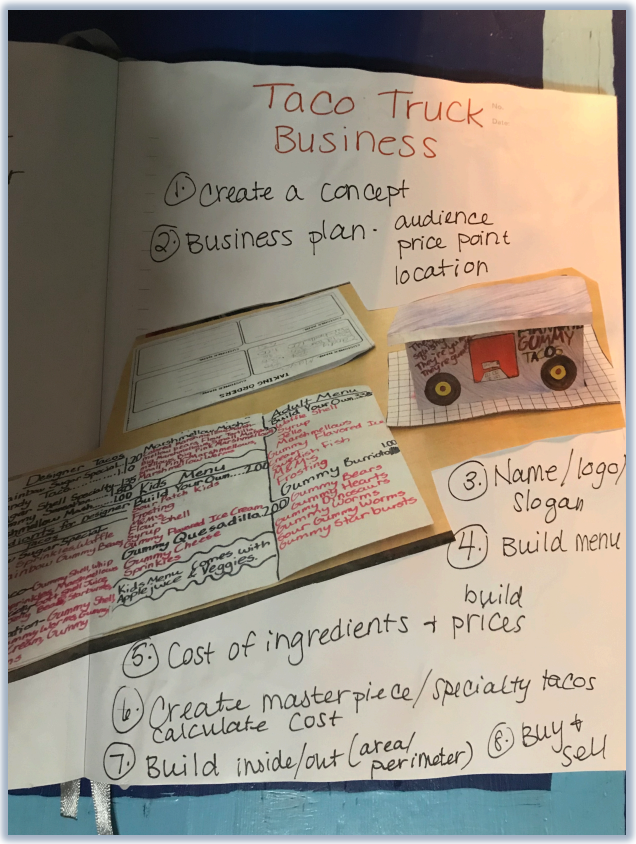

Figure 13 - Ms. Thatcher's creativity journal

In addition to writing and keeping journals, Ms. Thatcher explained that she although people view her as creative, she argued her creativity is in the ideas she comes up with, and that she needs help from others for the actual implementation of them:

> My implementation of ideas that's where I get hung up, is in the execution, because I want it to look so much bigger than what I can actually physically do on my own. So, I love to work with others because a lot of people have gifts where they might not have the idea but they can actually do the execution of what I'm thinking. I would say creativity with working with others…I'm really great at

working with ideas and writing and then also making connections in an unusual way.

Ms. Thatcher also explained that she uses creativity in her parenting tactics, always trying to keep her own children on their toes. She also likes to plan things like making travel journals when they go on family trips so that her kids can write, draw, and take pictures to record their adventures.

When Ms. Harper explained how she nurtures her own creativity she shared that she enjoys photography and then taking those pictures and making them into mementos. Some of her projects include making photographs into pillows or books, as well as scrapbooking. Ms. Harper explained that she likes doing these projects because these pieces of paper are now a keepsake, a memory she can keep forever. Ms. Harper also noted that she loves to decorate and redecorate her house and her classroom, looking at spaces and thinking of the best way to get use out of the space for the purpose it serves, and using color and decorations that are enlightening and pleasant. Ms. Harper explained that her organizational skills include creativity as well as her technology skills. When she discussed her use of technology, Ms. Harper noted that it requires a lot of creativity because she is always trying to figure out new programs and new ways to use technology in her class, which constantly challenges her and requires her to take risks in trying in things with her class.

Mr. Sawyer addresses his experiences with creativity by discussing some of the passions he has had throughout his life. This correlates with the idea of developmental psychology and creativity, in that creativity is realized throughout one's life in different

stages (Piirto, 2004, p. 13). Mr. Sawyer notes that he has been an artistic person his whole life, but how he expresses his artistic side has changed over time. When he was younger and growing up, Mr. Sawyer enjoyed drawing. He noted that he could draw for hours, sketching a variety of subjects both fictional and real. As he got older he started to play the guitar, which was another outlet that supported his creativity. Now Mr. Sawyer states that he uses creativity in everyday life. For example, Mr. Sawyer lives in a rural area and has animals on a small plot of land. He explained how they have to get creative when bad weather occurs, making it harder to feed the animals. He also told a story about a time that they ran out of the food for the animals during inclement weather and they had to get creative about what to feed the animals. Mr. Sawyer acknowledges that he likes to think about things in unusual ways, and appreciates people who do things out of the norm. He noted that he tries to do this within his classroom and encourages his students to try and think outside the norm as well.

When Mr. Finn talks about his own experiences with creativity he will note that he likes to think of himself as a person who uses creativity, but not in a visual sense. One of his favorite creativity experiences, which he has been participating in his for most of his life, is writing. Mr. Finn said that he still writes when he has time, and prefers to write fiction:

> I try to express myself, in my life, artistically and creatively as much as possible. In the classroom, I try to give my students the opportunity to do that as well. I feel like creating and expressing yourself helps get buy-in and helps you see the relevancy to what is happening in the classroom and the world.

In addition to expressing himself through his writing, Mr. Finn noted that he likes visual art too. He explained that he likes to read (lots of reading) and go to museums and experience the creativity of others. Mr. Finn explained that he came from a very creative family who loves the arts and expressing ideas using creativity. Through these experiences he has learned to appreciate unique and original thinking and ideas, which supports him in his teaching adventures.

Table 8 – Teacher Inspiration and Knowledge about Creativity Summary

Teacher	Inspiration for Creativity	Knowledge about Creativity
Ms. Douglas	Outdoors, traveling, photography, scrapbooking, planning events and gifts for people	*Pre-school training and background *Co-workers/peers *Observing other classrooms
Ms. Thatcher	Writing, illustrating thinking, coming up with big ideas, life, parenthood	*Online groups and blogs *Research *Some 21st Century schooling skills in college *Community
Ms. Harper	Photography, scrapbooking, creating books out of her photography, interior design in both her home and her classroom, technology.	*Personal successes and failure *Freedom to experiment in the classroom, try new things.
Mr. Sawyer	Drawing, playing guitar, life on a rural small ranch, people that think about things in unusual ways, stories of people who went against the grain.	*Life experiences *Traveling/new experiences *Professional Development that has had some creativity included in it (he did note it was not the focus of the PD)

		*Online rubrics that break down creativity
Mr. Finn	Writing fiction, reading, museums, other people's creativity	*Peers *Life experiences *Idea sharing *Student feedback *Occasional professional development that includes some creativity aspects *Being open to new ideas that he encounters.

When you look at the experiences the teachers have had, some common concepts emerge. To begin, all the teachers have creative outlets they use within their own personal lives, in addition to identifying as creative people in different ways. Some of the teachers enjoyed photography and scrapbooking, while others enjoyed writing, reading, and/or expressing themselves through music. All the teachers noted how creativity went back to their childhood; whether it was drawing, writing, or music, they all have been using creativity most of their lives. Furthermore, three out of the five teachers noted that their families were creative and that creativity surrounded them and was encouraged when they were younger. This is important because, in relation to developmental psychology theories, humans experience transformations as they respond to interactions with the world. Feldman and Goldsmith (1986) discussed how these transformations could be beneficial not only to the individual, but the larger body of knowledge in the field. Taking this into consideration regarding the teachers and their experiences, it seems

that their early experiences with creativity and their continued practices have supported them in being nurturers of creativity in their professional lives.

Research Question #3: Barriers

What barriers do teachers perceive relative to cultivating creativity in elementary and middle school education? The third research question in this study inquired about barriers teachers face as they work to implement creativity practices in their classrooms. This problem has been addressed in other studies, but in order to gain a clear understanding of what teachers were facing, this study sought answers as well.

One barrier that had already been identified in Olivant's (2015) study was high-stakes testing. In her study Olivant noted that the teachers identified high-stakes testing as affecting their ability to foster creativity and creative thinking in their classrooms. Likewise, Cho et al. (2017) noted in her study that curriculum restrictions and high-stakes testing environments pressured teachers to conform for the sake of testing (p. 9). In this study the same barriers arose, but only two of the five teachers in this study discussed the pressures and time commitment to testing. Mr. Sawyer acknowledged that there are tests they must take throughout the year and that his students want to do well, and he wants to support them, so there are specific standards/objectives he must teach. Mr. Sawyer explained these are straightforward standards so there was not a lot of creativity involved when working on those skills. In addition to Mr. Sawyer, Mr. Finn also argued that testing throughout the school year was a barrier to cultivating creativity. "It's an unfortunate reality, but a reality, there are assessment dates on the calendar." He noted that it wasn't anything he wanted to complain about because he realizes it is necessary in

his school but it was a barrier nonetheless. Mr. Finn and Mr. Sawyer do three major assessments each year, including the school common writing assessment at the beginning and end of the year. The i-Ready program that the school has adopted has assessments at the beginning, middle, and end of the year; and the CMAS, which is the state testing, takes place in March or April. Mr. Finn explained that it's not only the actual testing, it's the preparing for the testing, and then reviewing, and then going over the data during professional development, that took time away from classroom creativity. In his view it was all too much and could be frustrating at times.

Although Ms. Douglas noted they don't have any major "tests" in kindergarten, there are expectations that the students are supposed to reach by the end of the year. Ms. Douglas explained that her kindergarten students have fifteen standards to master in writing alone. She clarified it may not seem like much, but that is a lot of progression they are expected to do during the year. In the beginning it's mostly drawing pictures, but by the end they need to be writing sentences with capitalization, punctuation, and spelling. She contended that the expectation for them to complete numerous standards was tremendous and overwhelming for both her and the students. She also brought attention to the fact that many of her students don't know how to write letters or use scissors when they enter her classroom, so she felt she had a lot of ground to cover.

In addition to testing, this study identified other barriers teachers were facing when trying to cultivate creativity in the classroom; the most common theme in this study was time. Ms. Douglas felt that one of her biggest barriers was time. She noted time in all senses: time in the day, time for planning, time to complete the necessary tasks in a day.

> There are so many pieces that we have to pull in that even if you have these great lessons, often those creative pieces are what take more time and then you feel like this hustle to catch up with the rest of your day, because you added in reader's theater.

As Ms. Douglas was describing this scenario, you could get a sense of her frustration and almost defeat as she raised her voice and threw up her arms. It was clear that it was something that affected her outlook in teaching in the classroom.

Ms. Harper was another teacher who said that time was one of the biggest barriers to cultivating creativity in the classroom. She noted that she sometimes finds herself in the rut of doing the same thing repeatedly because it's efficient at accomplishing the tasks at hand. For example, when there is a lot to get done and more data to gather and all the subjects to teach, she finds herself throwing information in a PowerPoint because it's fast and the students can have access to it. So, she explained, "I don't feel like I have enough time to plan out the fun, exciting, creative, hands-on type of things." Mr. Sawyer also noted time as his biggest barrier. He rationalized that a lot of the skills the students need to know are straightforward and don't require much time, but when it comes to creativity students need time to process, invent, and reinvent, and sometimes there just isn't enough time for that in a quarter or even the school year. Mr. Finn addressed time as being the biggest constraint in his ability to cultivate creativity. He explained that during each quarter they have a certain amount of time to cover specific skills so that students would be ready for their testing. He clarified that all their best writing skills must be covered in class before the school Common Writing Assessment, as well as the state testing. This is

bothersome to him, and he thinks it hinders his freedom and ability to teach the way he would like to in the classroom:

> Sometimes you're teaching a lesson, and you're like, "Man wouldn't it be cool to do this with this?" I would love to do that, but "No, we can't do that because we have to move on to the next thing."

Mr. Finn noted that it wasn't just the time getting ready for assessments, but also the time it takes to take the assessments. He highlighted that for state testing alone they lose a week of teaching, and that two-thirds of the students opt out of testing, so the data isn't even useful. Mr. Finn also discussed how the schedule was a hindrance to time because the class periods are forty-five minutes long, so by the time they start to get into the flow class is almost over. In their school, they have block days on Wednesdays and Thursdays so class last for an hour and half; he recognized that he likes those days more and can get a lot more done with the students. He also stated, "I feel with a longer class period you will see more creativity, because you have more time to do bigger things."

Ms. Thatcher was another teacher who discussed time as being a factor that limited her in cultivating creativity, but she addressed time in a different sense. When describing her ideas, she noted they are big ideas, and time consuming, and have many working parts. And although she argues the dedication to the project will be worthwhile she is sometimes confined to what her grade level team wants to do in a certain amount of time (only a week for this unit). She explained that sometimes she doesn't take her ideas as far as she would like because of the sake of time and obligations to her team. She did acknowledge that her team helps her with parameters and to stay focused, but she

admitted that it could feel stifling. “I have big ideas and then there are time constraints or other commitments and that can hinder that.”

In addition to time and testing, there were a few other barriers addressed by the teachers in this group. Ms. Douglas identified that sometimes the adopted curriculum could be hindering because it sets a foundation which builds through the year, so you are compelled to stay on track. Ms. Harper noted that her students are often below grade level, so sometimes that became a barrier because there was pressure to not just keep them at grade level, but to bring them up several grade levels. For example, she teaches fifth grade, but she explained that some of her students are reading at a second-grade level. She thought it was hard to be creative when she was trying to fill in gaps so quickly throughout the year. Ms. Harper also didn’t have the most supportive team this year. She felt that her team was stuck in a rut and not open to new ideas and new ways of doing things, which was a hindrance and made it difficult to cultivate creativity.

Another barrier that appeared in this study was student grades. Mr. Sawyer explained that some of his students are very grade-driven, and as a result they weren’t willing to take risks for fear of being penalized for not being correct. He argued that this restricted their willingness to try something new and step out on a limb. Additionally, he admitted that he feels creativity is something difficult to grade. He elaborated that he tries to overcome this by establishing guidelines for how to incorporate creativity in their projects and supporting his students in understanding that it is difficult sometimes and that’s OK.

When Mr. Finn was talking about barriers he revealed a struggle they have been having in his school with a high teacher turnover rate. He noted that it wasn't because it was a bad school; it was just that the surrounding districts were paying teachers more and so teachers were leaving. As a result, his department kept hitting restart every year, trying to get everyone on the same page and establishing a strong foundation. He noted this interrupted "the organic process by which everything gets better." Mr. Finn stated this is stuff that can't be avoided, and then noted, "Well at least it can't be avoided by me, I have zero control over that."

When discussing what inhibits her cultivating creativity in the classroom Ms. Thatcher shared that she sometimes felt judged. "I just think different and so sometimes I feel misunderstood." She noted that sometimes this makes her reluctant to share ideas, or not take a project as far as she would like, because the team wants something done in a certain amount of time. Ms. Thatcher also sensed that, "I think people sometimes think because it's fun or messy it's fluff, I'm not doing fluff in here…everything I do is pretty purposeful, just may not be the purpose you have." She furthered explained that people are nice to her and discuss ideas with her, but she felt she has a reputation for being the crazy one that spends too much time on projects and that her room is chaos. She explained, "It is chaos, but it's organized chaos."

Table 9 - Summary of Teachers Barriers

Barriers	Teacher that Identified the Barrier
Time	Ms. Douglas, Ms. Thatcher, Ms. Harper, Mr. Sawyer, Mr. Finn
Grades	Ms. Thatcher, Mr. Sawyer, Mr. Finn

Testing	Mr. Sawyer, Mr. Finn
Rigorous Standards/Amount of Material to Cover	Ms. Douglas, Ms. Harper
Feeling Judged	Ms. Thatcher, Mr. Finn

It is important to recognize that although the teachers did face barriers they still worked to include creativity into their teaching practices. The teachers would divulge that they didn't get to do lessons that cultivated creativity every day or even every week, but overall, they work to keep students engaged and applying divergent thinking to produce new learning and application. By looking closer at these barriers and understanding what restricts teachers in trying to cultivate creativity, we can begin to look at ways to overcome these barriers and work to incorporate creativity in the classroom.

Research Question #4: Supports in Cultivating Creativity

What supports do teachers find beneficial in nurturing creativity in elementary and middle school education? The final question this study investigated the kinds of supports teachers find beneficial in helping them understand, apply, and incorporate creativity into their classroom. By understanding which supports help teachers' growth, it is the hope of this study that educational intuitions can then replicate some of these supports and in turn help the cultivation of creativity in classrooms become more pervasive. After looking at previous studies about the cultivation of creativity in the classroom, it was clear there were not a lot of studies that considered the professional development and training of creativity for teachers. According to Mullet et al. (2016) and Hosseini and Watt (2010), both reported that professional development and training in

creativity for teachers had positive impacts on the teachers as well as the students. And although there are institutions that work with teachers to understand creativity and support its implementation, finding the impacts of those institutions is a little more difficult. In my literature review I discussed two studies (Mullet et al., 2016; Hosseini and Watt, 2010) that reveal the positive impact that training has on the teachers and their implementation of the practices within their classrooms.

This study worked to identify which supports the participants in this study had that helped them to understand creativity and to cultivate it within their classrooms. Although answers varied, there were commonalities within them as well. One support that was identified by all five participants was a supportive administration. Ms. Douglas stated that her administrative team has been great about answering questions, supporting teachers in getting materials in their classrooms, and most of all by supporting the teachers' ideas about implementation. Ms. Thatcher also felt her administration was one of her greatest supports: "Having an admin that really lets us have creativity and kind of trusts us." She explained how her administration gives them lots of choice in how they want to do their professional development and what personal goals they want to set for the year. Ms. Harper also acknowledged that her administration was supportive in helping her cultivate creativity. She specifically noted her teaching partner (a building-wide teaching coach) that helped her think about what her students needed to accomplish and how they could accomplish it. Ms. Harper explained that in previous years they have had administrations that were very strict and expected them to use specific curriculums exactly as outlined in their manuals. She felt this year was much more open and that they

had freedom to do what's best for their students, and that helped build her confidence in her teaching.

Mr. Sawyer and Mr. Finn both noted that their administration was a strong support that helped them to cultivate creativity in the classroom. Mr. Sawyer explained that he is given the benefit to try new things, that his administration did not expect them to follow a certain curriculum, which allowed more freedom. He identified that he can create activities, assignments, and even assessments that best supported his class and their goals. Mr. Finn also discussed his administration as being supportive in allowing him to try wacky, weird creative stuff. "When doing projects last year, it looked like total insanity in my classroom." He noted that he was comfortable with that and wasn't worried about somebody walking into his classroom. His kids were working and learning, and that was what is important.

In addition to having a supportive administration the participants in this study also agreed that having a supportive team and/or supportive peers was also very helpful. Talking with peers about ideas and ways to incorporate creativity was important, as well as having the opportunity to observe each other's classrooms. Ms. Douglas recognized that just talking to her peers sometimes wasn't enough. By going into their classrooms, she was able to learn a lot more: instructional ideas, environmental ideas, just the sense of the room and the function. She recognized that talking with peers was beneficial, but physically being in their room encouraged a more quintessential understanding.

Some other supports that the participants identified as being helpful brought some interesting ideas to light. For example, Ms. Douglas stated that having more support in

her classroom so she could do bigger things would be helpful. Since she was working with kindergarteners, some of things she wanted to plan that could really challenge her students she wasn't able to, since they couldn't do it independently (while she is working with other groups). Mr. Sawyer viewed the district-provided rubrics on creativity helpful in guiding his understanding and implementation as well as some of the professional development where they might see how creativity is happening in other classrooms. He also felt the school-wide program they did, called iLab, was helpful in developing student-driven projects, because it followed an innovation process to develop a tangible product or presentation that could be give school- or even community-wide. Mr. Finn said the access to technology and other multimedia instruments helped him in cultivating creativity. He also talked about how he likes to network with other teachers and find out what they have and if they would like to work together. One of his latest projects involved working with the multimedia teacher to get access to a variety of electronics and instruction on how to use them. "You learn by working in the school who has access to what cool stuff that I can use in my classroom."

Table 10 - Teacher Supports in Cultivating Creativity

Supports	Teachers that identified this support
Supportive Administration	Ms. Douglas, Ms. Thatcher, Ms. Harper, Mr. Sawyer, and Mr. Finn
Supportive Peers/Team members	Ms. Douglas, Ms. Thatcher, Ms. Harper, Mr. Sawyer, and Mr. Finn
Technology/On-line communities	Ms. Thatcher, Ms. Harper, Mr. Finn
District Rubrics on Creativity	Mr. Sawyer
iLab	Mr. Sawyer

Observations of other Teachers	Ms. Douglas

Identifying the supports that help teachers cultivate creativity is imperative to the implementation of creativity. Through the data collected in this study, the most important support was an administration that was supportive of the teachers trying new things and teaching in ways they recognized as best practices for their students. This sheds light on how administrations can work to support teachers within their buildings if they are trying to create a more conducive atmosphere to cultivating creativity. Additionally, the teachers highlighted the importance of being able to work with peers and observe each other's classrooms to gain inspiration and ideas. Vygotsky first addressed the idea of Collaborative Creativity in the 1930's. Since then, Vera John-Steiner (2000) did a study looking at creative collaborations and concluded that creative processes do not develop within individuals, but rather through interactions in a sociocultural context (as cited by Starko, 2018, p. 59). Taking this into consideration, the interactions and idea sharing among teachers supports their creativity, which they then take to their classrooms to engage their students in creativity. Through this transfer of knowledge, the teachers are also modeling the principals of collaborative work and risk-taking. Although the teachers described other factors that supported their creativity, these two were the most prominent in positively influencing their cultivation of creativity.

Significant Findings

After analyzing the data and categorizing the information relevant to the novel framework and the research questions, there were still a few remaining findings that I

wanted to emphasize in this study. The significant findings included; emotional connections, autonomy, formal training, intrinsic motivation, and stigmas attached to creativity. These will be referred to as significant findings because they can have a dynamic impact on the cultivation of creativity in the classroom.

Emotional connections.

To start, one of the emergent ideas that Ms. Thatcher discussed was the idea of emotional connection. Ms. Thatcher highlighted that she is a relationship person so she likes the relationships she builds with her students as well as the professional communities she uses as inspiration for creativity within the classroom. In addition to Ms. Thatcher, some of the other teachers declared how important the relationships are with their students, teammates, and administration. In Gruber's work in developmental psychology outlining systems of complex attitudes and approaches, he noted that the idea of creative activity is interactive, and this includes relationships (as cited by Starko, 2018, p. 83). Sawyer (2001) also believes that creativity is important in the social sense. He explains "Creativity in interactional domains, including teaching, parenting, leadership, and mentoring is important to our lives and our culture" (Sawyer, 2017, p. 277). Furthermore, as Csikszentmihalyi (1996) stated, "Certain environments facilitate interaction and provide more excitement and a greater effervescence of ideas" (p. 6).

The teachers gained a lot of their knowledge and inspiration through their peers by discussing ideas and observing each other's classrooms, so again, these connections matter. Additionally, the relationships the teachers had with their students and others around them were instrumental in how they cultivated creativity in the classroom. This

data is relevant and important to consider when working to create classrooms that cultivate creativity. These social relationships coincide with concepts presented about environments and creativity. As discussed before, the environments, both physical and social/emotional, are significant in supporting students' creativity (Amabile, 2012; Cloninger, 2008; Eisner, 2002; Beghetto, 2013; Starko, 2018). Through these positive environments students are willing to take risks (Beghetto, 2013; Sternberg, 2007; and Moroye & Uhrmacher 2010) as well as enhance their creative self-efficacy.

Professional autonomy.

The second emergent theme I want to highlight is professional autonomy. EdGlossary provides this definition: The concept of teacher autonomy refers to the professional independence of teachers in schools, especially the degree to which they can make autonomous decisions about what they teach to students and how they teach it. The concept of professional autonomy came up several times as the teachers discussed what supports they have and how their philosophies align with their school and the district in which they teach. Ms. Douglas and Ms. Harper noted that their schools had several curricular programs that have been adopted, but they both explained that their administration gave them the freedom to use the programs in a way they felt best suited their students. Ms. Harper explained that her teaching partner in the school let her know the curriculum was just a support, not a "bible." Teachers were expected to use it to help their students in ways they felt were most beneficial. As Ms. Harper also explained, these programs were designed for specific grades, and although she is a fifth-grade teacher, several of her students were not on grade level so the curriculum could be too challenging

for her students. By allowing the teachers to make those decisions, the teachers felt more confident in their ability to support student learning. Ms. Harper explained that by getting the opportunity to do what is best for her students her confidence got a boost, which in turn she felt built confidence in her students.

In addition to Ms. Douglas and Ms. Harper, Mr. Sawyer, Mr. Finn, and Ms. Thatcher all emphasized that freedom within their teaching was essential to the cultivation of creativity in their classrooms. Mr. Sawyer discussed how the benefit of being allowed to try new things and design his own lessons and assessments is extremely valuable. Through this freedom, he felt he could challenge his students and push their thinking and application of thinking to different levels. Mr. Finn reflected on how he tries new things and loves to push his students to bring their ideas to the table. He felt comfortable that although it might look like chaos in his room, learning was occurring, and his administration recognized and supported him in his endeavors. Ms. Thatcher also identified that the freedom and autonomy to do what is best for her students was crucial to cultivation of creativity in her classroom. In her school, her principal works with the teachers to change the standards around on the report cards so that the report cards match what the teachers taught instead of the other way around. Ms. Thatcher accentuated how important that type of support is for her in allowing her to have her "organized chaos" while her students were learning through their lines of inquiry.

In this study is vital to emphasize the importance of professional autonomy for the teachers. In Olivant's (2015) article, *I am Not a Format,* the teachers were discouraged because they felt that fostering creativity was a way to help students learn and feel

successful. But professional autonomy was weakening as a result of the high-stakes testing, and in its place was an emphasis on conformity and compliance. This is important to consider in correlation with the studies and theories that emphasize teachers as role models of creativity. Kamphylis et al. (2009) identified that teachers are vital to the development of students' creativity because they are creativity role models for their students. Furthermore, Hosseini and Watt (2010) also discussed the importance of teachers influencing students' skills in a positive manner through modeling creativity. If teachers are expected to cultivate creativity and characteristics like creative self-efficacy, risk-taking, and divergent thinking, then they need the freedom and the autonomy to model that for their students. In this study, the teachers did have that freedom, and it had a positive influence in them trying new things, pushing their own thinking, and being flexible to allow for student input. With increased emphasis on testing and prescribed curriculums, it is important to ask, what is the purpose or end goal? Are students who can pick the correct analogy out of multiple-choice answers becoming the students who will be able to adapt to an ever-changing future?

Limited teacher training in creativity.

In addition to understanding teachers' beliefs and perceptions on creativity, this investigated where teachers were gaining their information about creativity. To investigate, the teachers were asked during their interviews where they gained their knowledge about creativity. As described earlier in this chapter, the answers to this question varied but included life experiences, peers, observing other teachers, travel, online media and/or blogs, and through some professional development, but they all

noted the latter was limited. It is important to consider teacher training when working to understand how teachers are implementing creativity practices within their classrooms. Hosseini and Watt's (2010) quantitative study investigated the impact of teacher training in creativity through professional development. After going through professional development for five hours a week over the course of four months, the teachers were far more knowledgeable about creativity and ways that they implemented it within the classroom. What is more significant is the fact that the students in this group scored significantly higher in creativity as assessed by the TTCT (Torrance Test of Creative Thinking) than groups whose teachers did not get any training. Through this professional development, not only did it positively impact the teachers, more importantly it has a positive impact on the students. Additionally, in Mullet et al. (2016) study, they also acknowledged that training positively impacted teachers' understandings of creativity. When looking at these studies and then looking at the training the teachers received in this study there is a discrepancy.

In this case study, the teachers were not getting professional training and support on understanding what creativity is and ways to implement creativity practices into their classrooms. Instead, these teachers were seeking support through peers, personal experiences, and online databases. The teachers in this study valued creativity and were diligent about understanding and using creativity in their classroom. Although it is positive that they were using creativity, the potential if they had formal training could be substantial. By providing professional development and/or professional learning communities that focus on creativity the teachers would have the opportunity to broaden

their understanding of creativity as well as develop instructional strategies and curriculum units that would further support students understanding and experiences with creativity in the classroom.

Intrinsic motivation.

As mentioned before, the teachers in this study worked through their own desire and interest to find ways to further understand creativity and ways to implement creativity in their classrooms. All the teachers were recommended by their staff as teachers that worked to cultivate creativity in the classroom. It is important to notice that all the teachers were intrinsically motivated. They worked to find resources, find supports, find people that had similar philosophies so that they could work together. This is interesting to compare to Amabile's (1989) three hallmarks of intrinsic motivation. These include 1) interest, 2) competence, and 3) self-determination. The teachers within this study exhibited all three characteristics throughout their interviews and observations. The teachers had a big interest in supporting students and using creativity in the classroom as a means of helping students be successful. Additionally, all the teachers appeared to be confident in what they were trying to teach. Finally, the self-determination was apparent in their determination to create classrooms that cultivated creativity even though the professional opportunities were limited. As examined earlier, the teachers in this study were modeling creativity through their own perseverance and tenacity to incorporate these practices within their classrooms.

Creativity stigmas.

The final emergent theme identified in this study was in connection to stigmas surrounding creativity. When discussing creativity, the teachers did identify a few perspectives on creativity that seem to be stigmas attached to cultivating creativity. To begin, Ms. Thatcher addressed that fact that she sometimes feels judged because she doesn't look at things the same way everyone else does. She also noted that she likes to use big ideas and to pursue big projects when teaching students, and as a result her room can seem chaotic. She referred to it as "organized chaos" and "messy learning." She also admitted that she sometimes she has the reputation as the "crazy one" because she is willing to make a big mess and dive deeper into their projects. In connection, Mr. Finn also explained that he when he is working to cultivate creativity, his administration might see this wild, wacky, craziness going on, but the students are learning. He mentioned that he can try these crazy ideas because he gets support from his administration. It is important to note these ideas that the teachers identified. They identified creativity as crazy, and/or messy, and that it could seem like chaos. Although this is true, chaos is not necessary in cultivating creativity. It is stigmas like this that may intimidate teachers and as a result they may be reluctant to work towards cultivating creativity in their classrooms. If teachers were exposed to deeper understandings and more formal training, they may become more open to understanding and implementing creativity practices within their classrooms.

Future Research

As I conclude this study, there are some apparent gaps that remain and need to be addressed in the research. If we want to move forward in cultivation of creativity and to support our students in their creativity journeys, it is important to look further into teacher training and how it can impact the cultivation of creativity.

Additionally, this study included three elementary teachers and two middle school teachers; another potential study could be focusing on high school teachers, looking at ways high school teachers cultivate creativity with students that are more self-sufficient and knowledgeable about the world they live in. It would be interesting to compare how the cultivation of creativity differs in the different levels of elementary, middle school, and high school as students gain more domain specific knowledge. It could also be beneficial to find the correlations between the Four C model of creativity created by Beghetto and Kaufman (2010) and how creativity evolves from mini-c (transformative learning) to Big-C (eminent accomplishments) throughout a student's school life.

Finally, some quantitative studies looking at the impact of creativity on students would be beneficial in understanding creativity in a more quantifiable way. Although it is questionable whether one can quantify creativity, there are some studies that use tests such as the Torrance Test of Creative Thinking to evaluate students' creative thinking. Furthermore, some longitudinal studies investigating the impact of creativity over time could also be interesting to add to the body of evidence in understanding creativity.

Conclusion

Creativity is a multifaceted entity, which can make it difficult for educators and others to grasp the enormity and complexity of it. As discussed in the beginning of this paper, the field of creativity is vast, and the ambiguity within the field can lead to confusion and uncertainty, but as this study identified, there are teachers in the classroom working to uncover the possibilities of creativity and how to incorporate it into their classrooms. Through the participation of these three schools and the five participants I was able add another piece to the larger puzzle of how creativity can look in the classroom and practices and philosophies that can support its cultivation. The teachers in this study used their intrinsic motivation to seek out ways to be creative and innovative in their curriculum, instructional strategies, and in the ways they created environments that supported their students in being self-sufficient, inquirers, divergent thinkers, and risk-takers.

It is important to continue to look at creativity through this study and the many others to build a foundation of understanding how creativity can be best cultivated in the classroom to give opportunities and inspire students to use their own creativity. Creativity offers new ways to approach ideas, see ideas, explore ideas, and to search for answers with robustness. My hope is that other educators, teachers, and administrations will look at this study as well as other studies on creativity and begin to work to incorporate within their own philosophies and schools. Although each step forward may be small, progression is progress and through progress we can create a world of creativity.

As I sum up my dissertation I end with this quote by Alane Jordan Starko (2018) that awakens what could be if educators work to include creativity in their classrooms, and in turn inspire creativity within their students:

> The challenge I leave with you is to explore and to help your students explore as many aspects of this pachyderm creativity as you can. Knowing full well that no one piece makes the creature complete, and understanding that we do not have all the answers, join the hunt with vigor. It is the search for the unknown that brings the wonder and excitement in discovering each new inch. If new paths cause occasional stumbles, they also bring adventure and understanding. Exploring them can make for schools of joy- and curious delight. (p. 361)

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APPENDICES

Appendix A:

Interview #1 Questions

Date:_____

Time:_____

Place:_____

Interviewer:_____

Interviewee:_____

Position of Interviewee: _____

Opening Protocol

1. Have participant sign Consent Form and give them a copy of the form to keep.
2. Read Preamble.

Preamble

Hello, my name is Krystal Flanders and I'm meeting with (name) on today (date) at (location). I'm very thankful that you are willing to meet with me today for an interview about creativity in the classroom. This interview is part of my research work on creativity and will be used in my dissertation at the University of Denver.

During this interview I will ask you a series of questions to gain an understanding of your thoughts, perceptions, and beliefs about creativity in the classroom. If you have any questions or need clarification during the interview please ask at any time.

The permission form you signed allows me to record this discussion as well as take notes and use it as data within my dissertation. I will transcribe the interview and provide you with a copy of the transcription so you may review it for accuracy.

Do you have any questions before we begin?

Thank you for participating in my research, I greatly appreciate it.

Part I: Demographic Information/Background

1. Gender:_____ age:_____ number of years teaching:_____ number of years in current position:_____ grade/subject currently teaching:_____
2. Can you please tell me about your educational background? Schooling experiences, higher education, teacher preparation program?
3. What led you to become a teacher?
4. What do you feel are your strengths as a teacher?

Part II: Perceptions and Beliefs about Creativity

5. Would you describe yourself as a creative person?
    - In what specific ways do you think you are creative?
    - Describe something you have done lately that engaged your creativity.
6. How would you define creativity?
7. In your opinion what does creativity include?
8. Do you think cultivating creativity in the classroom is important? Can you please elaborate on your thoughts?
9. Do you feel creativity can improve academic performance? Please explain.
10. Do you feel comfortable in your ability to cultivate creativity within the classroom and build students' confidence in their own creative potential?

11. In your classroom, do you encourage students to share unique ideas, and provide feedback on their insights to help enrich their learning and understanding?
12. Do you think a person needs to be creative in order to foster creativity in the classroom? Do you think your own personal perception of creativity can influence the use of creativity in the classroom?
13. Do you think creativity can foster learning for students with different learning styles? i.e. learning disabilities or talented and gifted.
14. Do you feel creativity is something that is natural for you to cultivate within your classroom, or is something you intentionally plan to include?
15. Tell me about your classroom environment: how do you set it up, and why? Can you also explain the social-emotional environment you like to create?
16. I have some questions about an approach to teaching and learning, I will briefly explain the general concept of each concept and then ask you how these may or may not be present in your classroom.
    - Students engaging in novel experiences
    - Students engaging in personally meaningful interpretations of experiences, actions, and events
    - Adaptability, flexibility, possibility thinking
17. Do you feel that creativity can be experienced in everyday life? Please explain your response, and provide some examples if possible.
18. Next are some questions about an approach to teaching and learning. Please explain how these ideas align with your teaching and/or classroom.
    - Connections
    - Risk-taking
    - Imagination
    - Sensory engagement
    - Perceptivity
    - Active engagement

Do any of these concepts seem more applicable then others in your classroom? Please explain which ones and why. Can you recall lessons that you have taught that incorporated any of these, and the results of those lessons?

Appendix B:

Interview #2 Questions

Date:_____

Time:_____

Place:_____

Interviewer:_____

Interviewee:_____

Position of Interviewee: _____

Opening Protocol

3. Have participant sign Consent Form and give them a copy of the form to keep.
4. Read Preamble.

Preamble

Hello, my name is Krystal Flanders and I'm meeting with (name) on today (date) at (location). I'm very thankful that you are willing to meet with me again today for a follow-up interview about creativity in the classroom. This interview is part of my research on creativity and will be used in my dissertation at the University of Denver.

During this interview I will ask you a series of questions to gain an understanding of your instruction, curriculum, and environment in relevance to cultivating creativity in the classroom. If you have any questions or need clarification during the interview please ask at any time.

The permission form you signed allows me to record this discussion as well as take notes and use it as data within my dissertation. I will transcribe the interview and provide you with a copy of the transcript so that you may review it for accuracy.

Do you have any questions before we begin?

Thank you again for participating in my research, I greatly appreciate it.

Instructions

1. What do you feel is your role in cultivating creativity in your classroom?
2. What are your teaching philosophies in connection with creativity and instruction?
3. What instructional models do you incorporate in your classroom that support creativity?
4. Do you feel that incorporating creativity into your instructional strategies is natural and routine, or is this something that requires thorough planning and devotion?
5. What support(s) do you have/need in order to assist you in nurturing creativity in the classroom through instructional practices?
6. What barriers do you feel you face when trying to use instructional practices that cultivate creativity in the classroom?

Curriculum

7. What are your thoughts concerning creativity and curriculum?
8. Is creativity included in your state-mandated curriculum?
9. What curriculum models have you incorporated in your classroom that support the cultivation of creativity? Do you feel they are/were successful? Please elaborate.
10. What support(s) do you have/need in order to nurture creativity in your curriculum?
11. What barriers do you feel obstruct you from incorporating creativity in your curriculum?

Environment

12. Please explain how the environment in your classroom supports creativity in a physical sense.
13. How do you create an environment that supports creativity in a social-emotional manner?
14. What aspects of this environment do feel are most important in cultivating creativity and why?
15. What support(s) do you have/need in order to create an environment that cultivates creativity?
16. What barriers do you feel obstruct you from incorporating creativity in your classroom environment?

Training/Professional Development

17. What training have you had in relation to creativity? Explain how it was or was not beneficial.
18. What would you need in order to be able to cultivate creativity in your classroom to its fullest potential?

Appendix C:

Creativity Journal

In order to gain a better understanding of what creativity looks like in your classroom and your perceptions and beliefs about creativity, I'm asking you to keep a creativity journal. This is a task I hope you won't find overwhelming or mundane; I hope that journaling will help you reflect on your creativity practices, while helping me to better understand your thoughts and practices in reference to creativity in your classroom. Please use this journal to add some entries that may include the following:

- Lessons you taught the engaged students creativity
- Ways you felt that you were using your own creativity in the classroom
- Ideas you have learned about creativity
- Concepts about cultivating creativity through instruction, curriculum, and/or environment that you used or learned about during this time
- Supports you encountered that aided you in cultivating creativity in your classroom
- Barriers you faced when trying to cultivate creativity

Journal entries can be short or elaborate; there can be many entries or only a few. You may write or create drawings to express your thoughts and/or learning. Thank you!

Appendix D

Observation Protocol

Participant Pseudonym: _____ Date: _____

Grade/Level _____

Time Start _____ Time Ended: _____

Topic or Topics:

Instructional strategies used during lesson (problem finding, problem solving, flow, divergent thinking, inquiry based learning):

Curriculum focus (Adaptability, flexibility, possibility thinking, project based learning, arts-integration, authentic learning, thematic):

Environment Physical (private spaces, group spaces, publishing spaces, performing spaces, participation spaces, watching spaces, creating spaces, explorative, materials, tools):

Environment Tangible (intrinsic motivation, risk-taking, self-efficacy, self-sufficient):

Nature of Activities - what students are doing, what teacher is doing; interactions:

Students engaging in novel experiences:

Students engaging in the following:

Connections:

Risk-taking:

Imagination:

Sensory engagement:

Perceptivity:

Active engagement: